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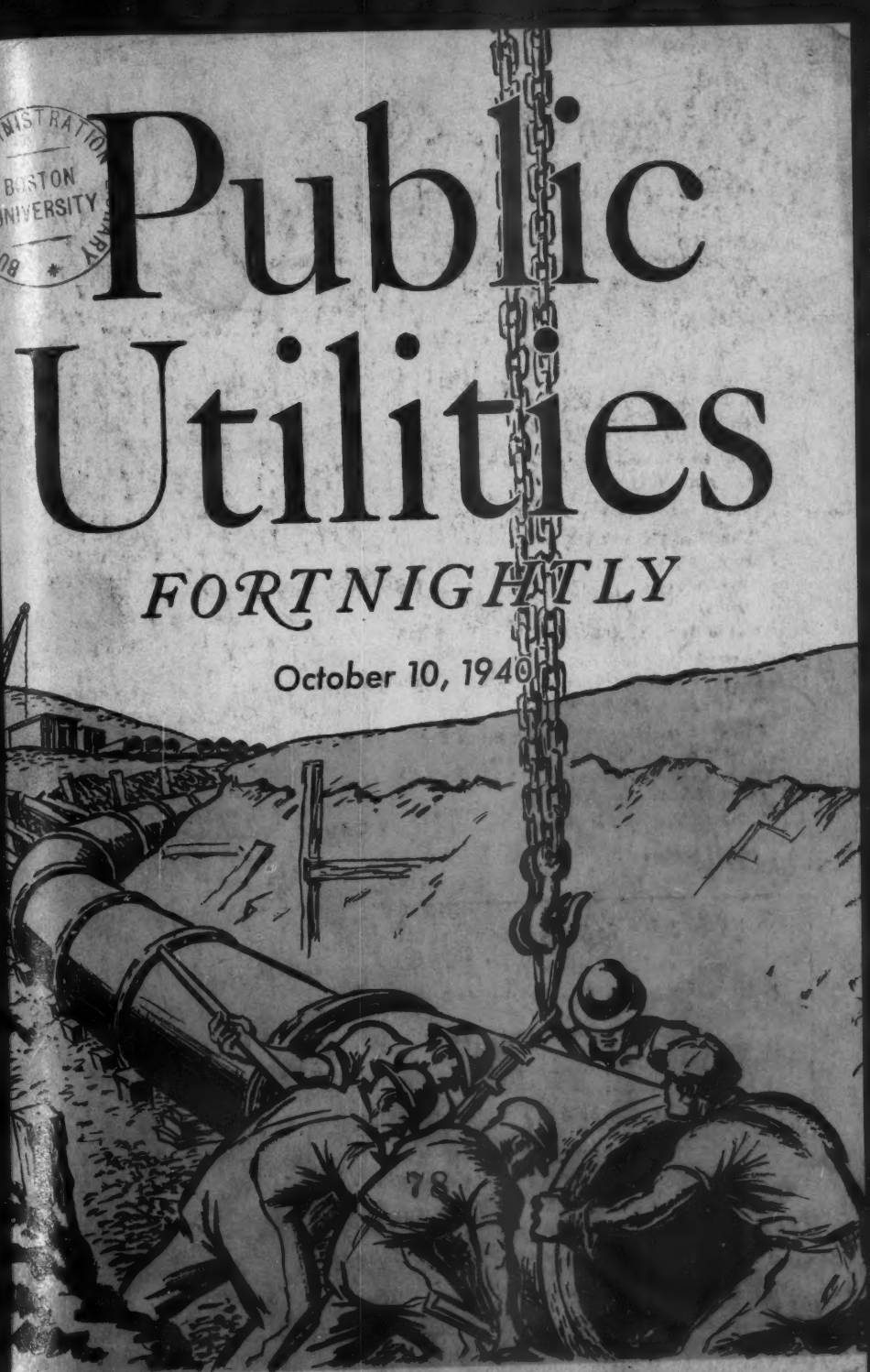
Public Utilities

FORTNIGHTLY

October 10, 1940



Greetings to the American Gas Association
Convention, Atlantic City, N. J.,
October 7-10

"I'M NO BOOK AGENT, MR. WATTS--"

"But here's something that every electric utility executive . . ."

"Har-umpf! I just can't wait."

"But, Mr. Watts! Did you know that 97 families out of 100 serve coffee at least once a day?"

"You stagger me, Miss Patterson. But what's that to do with . . ."

"Everything! A nation of coffee drinkers has got to have glass coffee makers."

"Don't ramble."

"I'm not rambling. This book shows that scads of families have irons and toasters and vacuum cleaners, but only 17% have glass coffee makers."

"Hmmm! The light dawns, Miss Patterson."

"You haven't heard anything yet. A cleaner adds only 24 KWH to the load, a toaster only 30, an iron only 80 — but a Silex Glass Coffee Maker with Anyheet Control adds 97 KWH. And how'd you like to know the KWH we could add to *our* load for the next five years by pushing Silex?

"Miss Patterson, where'd you get that book?"

"The Silex representative. He's waiting outside right now."

"Hmmm . . . load building. Show him in!"

Yes . . . Show Him In

In 5 minutes your Silex representative will take you through the "Silex KWH Campaign Book" and prove that Silex promotion can put more KWH on your load than any other small appliance except a roaster.

Every Electric Silex has a "Self-Timing" Stove!

▶ It's an exclusive Silex feature, patented so others can't copy. Women love it . . . makes uniform, better-tasting coffee every time. All electric Silex Glass Coffee Makers have "Self-Timing" Stoves. And electric models are priced from $4.95 to $29.95. Illustrated, 8-cup, black trim . . .

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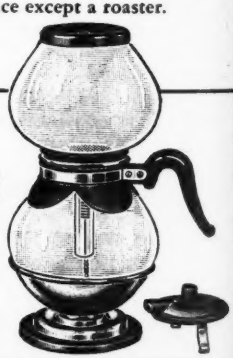

BRETTON BLACK ELECTRIC MODEL with wide neck for easy cleaning **$4.95 retail**

Genuine SILEX

THE SILEX COMPANY . . . HARTFORD, CONNECTICUT

Creators of the Glass Coffee Maker Industry

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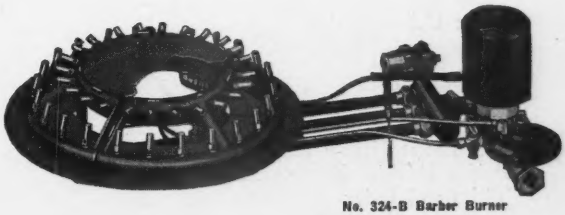
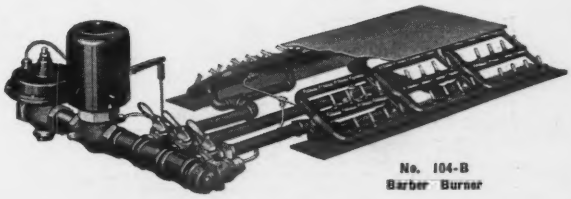
BARBER BURNERS
Help You Sell Gas Heating Satisfaction!

The superiority of Barber Conversion Burners is based on their exclusive combustion principle. Above the gas orifice in the jet tubes is an auxiliary air feed which creates a vacuum as the mixture leaves the jets, projecting into the flame the additional air necessary for efficient combustion on increased gas pressure. Patented Barber Jets deliver a flame temperature of 1900° on atmospheric pressure. They produce a correctly directed and controlled flame which thoroughly "scrubs" the walls of the fire box. The heat satisfaction and fuel economy thus attained in tens of thousands of installations over more than 20 years, and the freedom from constant servicing, are solid ground for Barber's tradition of leadership. Barber helps *you* deliver complete heating satisfaction.

• Standard Models come in 8 sizes for round grates 12" to 34" in diameter. There is also a wide range of sizes for oblong grates. All burners easily and correctly adjustable to grate dimensions. Listed in A. G. A. Directory of Approved Appliances. Ask for Catalog and Price List on Conversion Burners for Furnaces and Boilers, Burner Units for Gas Appliances, and Gas Pressure Regulators.



No. 324-B Barber Burner



No. 104-B Barber Burner

THE BARBER GAS BURNER CO., 3704 Superior Avenue, Cleveland, Ohio

• **BARBER *Automatic* JET GAS BURNERS** •

For Warm Air Furnaces, Steam and Hot Water Boilers and Other Appliances

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Editor—HENRY C. SPURR
Associate Editors—ELLSWORTH NICHOLS, FRANCIS X. WELCH, NEIL H. DUFFY
Financial Editor—OWEN ELY

Public Utilities Fortnightly

VOLUME XXVI *October 10, 1940* NUMBER 8

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¶ *This magazine is an open forum for the free expression of opinion concerning public utility regulation and allied topics. It is supported by subscription and advertising revenue; it is not the mouthpiece of any group or faction; it is not under the editorial supervision of, nor does it bear the endorsement of, any organization or association. The editors do not assume responsibility for the opinions expressed by its contributors.*

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or others in Public Utility Companies who are interested in the sale of appliances are invited to send for three case studies of

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—two for electric light and power companies and one for a gas light company. Two of the systems described use the punched hole method of selection; one the color method of selection.

Requesting this systems material will carry no obligation of any kind. Please address:

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Pages with the Editors

IN this issue (beginning page 479) we present a special collection of statements from operating companies and executives of the American gas industry. Shortly after these lines appear in print, the members and guests of the American Gas Association will meet in their twenty-second annual convention at Atlantic City, New Jersey. To the expressions of greeting contained in this special section, may we add our editorial salute to a gallant enterprise.

LIVES there a man of about forty years or more who does not recall getting a paddling for breaking the mantle on the family gas burner? The question, of course, would have to be restricted to those who spent their childhood days in the average American city. And maybe the parental discipline took a milder form. But in any event, most of us in this class can look back wistfully upon the fascination which these old-fashioned glowing hoods of illumination used to have for the average boy or girl. The temptation to stick pencils through them, or otherwise shatter the fragile fabric by jumping up and down, seemed almost irresistible.

EARLY last month, the last link between the modern era and those pleasant, if dimly lit,

H. W. BLALOCK

It may even be possible to bring the farmer telephone service over his power line.

(SEE PAGE 466)

Pach Bros., N. Y.

FLOYD W. PARSONS

While ready for call to the colors, the gas industry is not neglecting its home work.

(SEE PAGE 451)

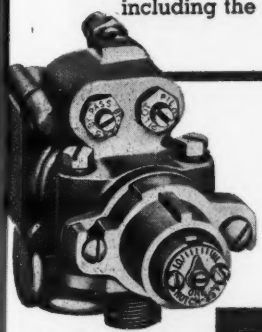
days of goggle-eyed gas burners was severed. The Welsbach Company, manufacturers for nearly a half-century of gas mantles, once used for gas lighting in millions of homes throughout the world, finally gave up the ghost and suspended operations. It was unable any longer to compete with the more efficient and convenient electric light bulb.

IN a way, the passing of the old gas mantle which illuminated the political meetings, Sullivan prize fights, and Gibson girl attractions so admired by our fathers, marks the end of an epoch. It also marks an important change in the life and growth of the gas industry. Broadly speaking, we cannot at all be sure that this newer and more brilliantly lighted era will make us any happier. But if civilization can bridge the transition as successfully as the gas industry, human society has more reason for optimism than can be found in the daily newspapers currently published.

DESPITE its substantial period of commercial success, the gas mantle was one of those slightly anachronistic paradoxes which bob up

ROBERTSHAW HEAT CONTROLS

Another big step forward in simplification—heat control dial and gas cock handle combined in a single unit and operated with a single motion! That saves time for the user. Also it ensures greater accuracy in baking and roasting: the control *must* be brought back to zero each time the gas is turned off, *must* be reset each time it is turned on. Now cooking by gas offers *every* advantage, including the highest development of automatic control.



SIMPLE TO SERVICE

New simplified front calibration, by-pass and pilot adjustment. Can be checked with absolute accuracy at room temperature.

Oven valve and thermostat assembly form one unit removable from front without disturbing fittings. Cannot be replaced incorrectly.

ARE YOUR SALESMEN ARMED WITH THIS EFFICIENT SALES MANUAL?

It's boosting earnings for thousands of salesmen every working day. Write for a copy — free.

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ROBERTSHAW SPEEDS SALES

ROBERTSHAW THERMOSTAT COMPANY, YOUNGWOOD, PA.

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every so often in industrial history. It was doomed before it was born. For it was in 1884, seven years after Thomas Edison had discovered the incandescent electric bulb, that an Austrian inventor, Carl Auer von Welsbach, discovered that a lace-like hood made of erbium salts and hung over a gas flame became brilliantly incandescent at low temperatures.

SUBSEQUENT improvements in the texture of the mantle changed the original greenish glare to a bright white light. For the gas industry (even though it could see, at the turn of the century, the handwriting on the wall for gas illumination) the Welsbach mantle provided an opportunity to make the best of existing conditions in the interest of public service. Gas distribution lines were already in place in most American cities. Electricity was still in its industrial swaddling clothes.

AND so the mantle flourished, reached its peak, and declined peacefully, as was foreseen. It brought light and comfort to a generation which otherwise would have had to squint in the semigloom of open gas burners or kerosene lamps. The gas industry itself retreated gracefully before the electric bulb. It proved once more its staying power by venturing into other unexplored fields of public service, such as central station, space heating, specialized industrial fueling, and improved domestic cooking and refrigeration.

TODAY the gas industry of the United States can look back on this retreat which might have broken a less spirited and resourceful enterprise into a wreckage of insolvent fragments. It can look back in confidence that the battle is won. Gas service in newer forms is not only here to stay but progressing steadily under the banner of public service.

NOW another challenge comes to test the fortitude of the gas industry, in common with all other utility lines. It is the national defense. It calls upon the gas industry to carry on its peace-time burden as well as the additional requirements of rearmament, and to do it through a period of rising taxes and other expenses, as well as of conscripted man power.

How well the gas industry is prepared to meet this new challenge is seen in the leading article in this issue by FLOYD W. PARSONS, editor of *Gas Age*, and nationally known spokesman for the gas industry. Born in West Virginia, MR. PARSONS received his engineering education at the University of West Virginia and Lehigh University (E. M., '02). After operating experience in coal mining and teaching experience in the Michigan College of Mines, MR. PARSONS became associate editor of *Engineering and Mining Journal* in 1907. He was the founder of *Coal Age* and its editor until 1918. MR. PARSONS is now a member of the board of directors and editorial director of the Robbins Publishing Company. In addition to *Gas Age*, he is also editor of *Industrial Gas* and contributing editor of *Advertising and Selling*. He has been active in a number of professional and industrial associations.

J. E. BULLARD

Combining utility and appliance dealer viewpoints, is ideal merchandising policy.

(SEE PAGE 459)

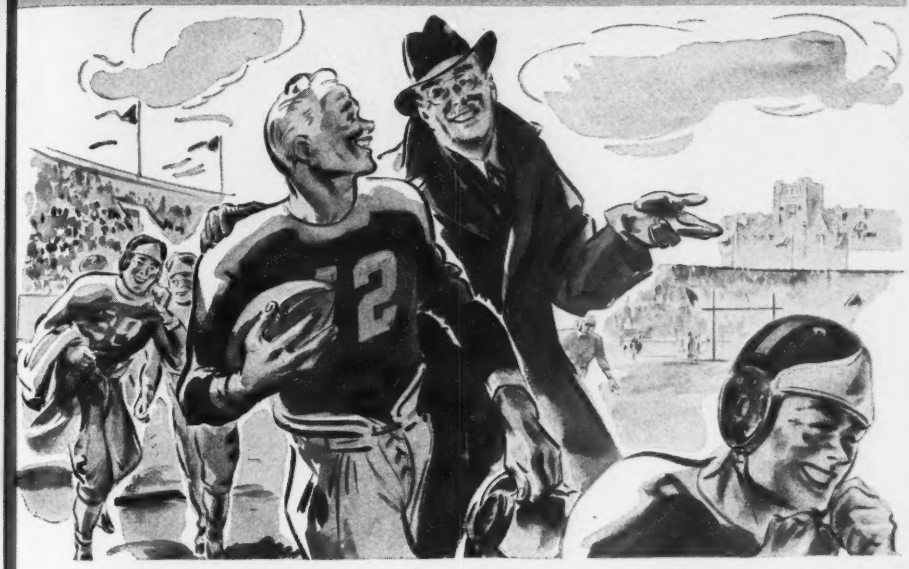
TWO other veteran writers for business publications have contributions in this issue. J. E. BULLARD, whose article on merchandising policy begins on page 459, is a resident of Central Valley, New York. ALFRED M. COOPER, until a short while ago a personnel director of the Los Angeles Department of Water and Power, is now a prolific writer for various publications from his home in Banning, California.

TELEPHONE men, especially those connected with independent companies operating in rural areas, will find the article by COMMISSIONER H. W. BLALOCK, of the Arkansas Department of Public Utilities, of special interest. COMMISSIONER BLALOCK is a graduate of the University of Illinois (Ph.D., '31) and after teaching as assistant professor of business administration in the University of Arkansas became a member of the state board in 1937.

THE next number of this magazine will be out October 24th.

The Editors

"Razzle-dazzle Gets Me Results, too, Son!"



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See it in Action Today!

A full demonstration costs nothing, obligates you in no way, will surely be an eye-opener. Arrange for one now. Phone your nearest Remington Rand office. Or write Remington Rand Inc., Buffalo, New York. In Canada: Remington Rand Ltd., Toronto.

4 Ways IT CAN PROFIT YOU

1. It's an electric listing-adding-direct subtracting machine.

2. It multiplies electrically, divides automatically.

3. In branch office or chain store, it replaces two "part-time" office machines—reduces machine investment.

4. Unsurpassed on all original calculating—ideal for payroll and order extending, inventory, discounts, interest, pricing, etc.

The Remington Rand Printing Calculator

ONLY Remington Rand CAN FURNISH EVERY OFFICE NEED

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PREPRINTS FROM PUBLIC UTILITIES REPORTS

Various regulatory rulings by courts and commissions reported in full text, pages 1–64, from 35 PUR(NS)

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ACCEPTED- *Because VULCAN is DEPENDABLE!*

Engineering executives purchase equipment on demonstrated performance. That's why engineers in every conceivable industry purchase Vulcan and the reason why Vulcan was sold in forty-three states, every Province of Canada, Porto Rico, Territory of Hawaii and eleven foreign countries during the past year. The following partial list of representative contracts for 1939 demonstrate the popularity of Vulcan among engineers in every type of industry who have taken the time to investigate the reasons for Vulcans rugged dependability. Many of these contracts are repeat orders, real evidence that Vulcan gives highest satisfaction.

Socony Vacuum Oil Co.....East St. Louis, Mo.
Town of Albion.....Albion, Indiana
Pairpoint Corporation.....New Bedford, Mass.
Charleston Navy Yard.....Charleston, S. C.
U. S. Naval Academy.....Annapolis, Md.
Metropolitan Life Insurance Co....New York City
Park Chester Housing Development
Griesdieck Western Brewery.....Belleville, Ill.
Minot Normal School.....Minot, N. D.
Southland Paper Mills.....Lufkin, Texas
Bethlehem Steel Company.....Lebanon, Penna.
Norfolk Navy Yard.....Norfolk, Va.
Fairmont City Light Co.....Fairmont, Minn.
Evenson and Levering Company....Camden, N. J.
Socony Vacuum Oil Company.....Brooklyn, N. Y.
City of Bellefontaine.....Bellefontaine, Ohio
Gallinger Hospital.....Washington, D. C.
Colorado State Agricultural College
Fort Collins, Colo.
Navajo Agency.....Ft. Defiance, Arizona
Victor Chemical Company....Mt. Pleasant, Tenn.
McChord Field, U. S. Army....Ft. Lewis, Wash.
B. F. Goodrich Company.....Clarksville, Tenn.
Canadian National Railways.Winnipeg, Man., Can.
Carnation Compny.....Sherbrooke, Quebec, Can.
Alexandria Steam Generating Co...Alexandria, Va.
South Porto Rico Sugar Company
Santa Domingo, Dom. Rep.
George Ziegler Company.....Milwaukee, Wis.
Atlas Powder Company.....Stamford, Conn.
Colorado State Capitol.....Denver, Colo.
Hercules Powder Company.....Hercules, Del.
U. S. Military Academy.....West Point, N. Y.
Container Corporation of America
Circlesville, Ohio
Commodore Perry Housing Project...Buffalo, N. Y.
DeKalb State Teachers College.....DeKalb, Ill.
United States Shoe Corp.....Norwood, Ohio
The May Company.....Cleveland, Ohio
United States Naval Hospital...San Diego, Calif.
Frankford Arsenal.....Philadelphia, Penna.
Central Park Pumping Station.....Chicago, Ill.
Virginia Public Service Co.....Hampton, Va.
Atlas Powder Company.....Atlas, Mo.
City of Fairmont.....Fairmont, Minn.
Froedtert Grain and Malting Co..Milwaukee, Wis.
Sonoco Products Company.....Garwood, N. J.
Sheridan Brewing Company....Sheridan, Wyoming
City of Fort Collins.....Fort Collins, Colo.
Ingenio Riogaila....Buenaventure, Columbia, S. A.
South Carolina Electric and Gas Co....Parr, S. C.
American Woolen Company.....Fulton, N. Y.
Keystone Public Service Company.Oil City, Penna.
Alabama Power Company.....Chickasaw, Ala.
Pennsylvania Power and Light Co.
Harrisburg, Pa.
Holyoke Gas and Electric Co.....Holyoke, Mass.
Durkee Famous Foods.....Chicago, Ill.
Blanton Company.....St. Louis, Mo.
Continental Diamond Fibre Co..Bridgeport, Penna.
Westinghouse Electric and Manufacturing
Company, Lima, Ohio
Libby, McNeill and Libby.....Chicago, Ill.
Vanadium Corporation.....Naturita, Colo.
Philadelphia Electric Company....Chester, Penna.

Vulcan Soot Blower Corporation does not build down to a price. Vulcan builds into their equipment thirty-seven years of experience; build by highly skilled engineering and plant personnel of long service, using the highest type material that hard exacting service has demonstrated is the most practical for its purpose. The result is trouble free, long years of service, making unnecessary frequent servicing—and when service is required, skilled field engineers on their rounds, offer it gladly to maintain your Vulcan equipment in top condition. Ask the Vulcan Sales or Field Engineer WHY Vulcan MUST build into their equipment the most rugged, trouble free, lowest maintenance you can buy.

VULCAN SOOT BLOWER CORP., Du Bois, Penna.

★ ★

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Remarkable Remarks

"There never was in the world two opinions alike."
—MONTAIGNE

ALEXANDER WILEY
U. S. Senator from Wisconsin.

"We must not now decapitate industry by taxation."

KENT E. KELLER
U. S. Representative from Illinois.

"Taxes do not hurt anybody when money is being made."

EDWARD R. MARTIN
Assistant statistician, American Gas Association.

"The gas industry serves approximately two-thirds of the population."

ELMO ROPER
Consultant surveyor of industry and business for "Fortune" magazine.

". . . the majority of people are not apt to call utility rates high if they aren't high."

S. B. WILLIAMS
Editor, Electrical World.

"We have not yet reached the condition of emergency in which we must give no thought to costs."

JOHN L. LOVETT
General manager, Michigan Manufacturers' Association.

"We [industry] have been great appeasers who have allowed the radical and the politician to undermine our business structure."

THOMAS KENNEDY
International secretary-treasurer, CIO United Mine Workers.

"More than sufficient solid fuel [hard and soft coal] is available in the eastern states to provide energy for the national defense program."

STYLES BRIDGES
U. S. Senator from New Hampshire.

"The fact that so many publicly owned [power] plants have failed is almost solely due to mismanagement and inefficiency by political officeholders."

CARTER FIELD
Journalist.

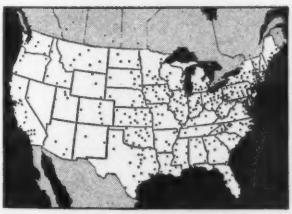
". . . logic seldom bothers the administration in dealing with any problem involving electric power. Especially if logic would interfere with the New Deal's irresistible urge to spread the 'blessings' of government ownership of the electric industry throughout the land!"

STANLEY CAMPBELL
Dallas advertising agency executive.

". . . under a government and an economic system based on free enterprise, advertising ranks first and foremost as a bulwark of safety—and it is a protecting arm against the attacks of those who would do away with such enterprise and its attendant privileges and liberties."

This Burroughs dispatch system for speeding service calls in a metropolitan area has its counterpart in Burroughs offices everywhere.

THEY GUARD YOUR OFFICE
against interruption



Burroughs maintains more than 450 service centers. Uniformly efficient local service—readily available to every Burroughs user—extends to every county in the United States, to every part of Canada, and to foreign countries.

Burroughs prompt, efficient local service is recognized by users as being without an equal for safeguarding the mechanical performance of office machines. Each man in Burroughs vast service organization is factory-trained, factory-controlled, and paid solely by Burroughs. Each is placed where he is readily available to render periodic or emergency service to Burroughs users in his territory, and his work is supervised and guaranteed by Burroughs. Such efficient service saves time and money, assures minimum interruption in office routine, and is a major reason why over a million businesses have decided in favor of Burroughs equipment.

BURROUGHS ADDING MACHINE COMPANY, DETROIT, MICHIGAN

Today's **Burroughs**

DOES THE WORK IN LESS TIME—WITH LESS EFFORT—AT LESS COST

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WALTER M. PIERCE
U. S. Representative from Oregon.

"It is evident that this [Holding Company] act does not go far enough; neither has the practical application progressed as far as it should have gone since its enactment."

EDITORIAL STATEMENT
Public Service Magazine.

"Tax-paying industries such as this [utility industry] are our greatest national asset. Even as they are vital to normal prosperity, they are more vital to defense when peace is threatened."

A. E. HOLLOWAY
President, Pacific Coast Gas Association.

"Too long have we permitted the benefits of improvements in gas equipment to be taken for granted. Too long have we refused to employ the adjectives and superlatives of modern promotion."

EDITORIAL STATEMENT
Commercial & Financial Chronicle.

"There never has been in the United States any moment of relaxed effort or of retarded progress in the railway industry. There has been no pause in the evolutionary process, no time of stagnation."

WILLIAM O. DOUGLAS
Associate Justice, U. S. Supreme Court.

"When it becomes fashionable for the young lawyer to give a few years of his life to city, state, or nation before he starts working for himself, the lawyer will have resumed his traditional rôle of leadership in public affairs."

O. M. VAUGHAN
Retiring president, Michigan Independent Telephone Association.

"I believe the day is not far off when it will not be popular, as it is now, for politicians to attack utilities in order to make campaign issues. This day will come sooner if we educate the public to the fact that it eventually pays all the bills."

DAVID J. GUY
Engineer, Natural Resources Department, Chamber of Commerce of the United States.

"The President's National Power Policy Committee, on which TVA is represented, has been pointing an accusing finger at private utilities, asserting power shortages and 'bottlenecks,' all the while having in its own TVA backyard the only real bottleneck in the country."

EDITORIAL STATEMENT
The Baltimore Sun.

"... one great, competitive, creative mechanic of Ford's type or Edison's does more to reduce human toil and suffering, more to enlarge human horizons, more to enrich human experience, than all the social workers who ever have been born into the world or ever will be born."

EDITORIAL STATEMENT
Gas.

"A few years ago the gas companies could do nothing about the rural load; but that is far from the truth today. Developed outside of the gas industry, presented to it on a platter, so to speak, is liquefied petroleum gas, butane and propane, whose output volume has increased over a thousandfold in the past seventeen years."

METALBESTOS

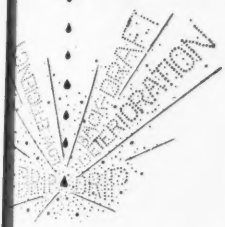
GAS VENT AND FLUE PIPE

U. S. LETTERS PATENT NOS. 2013193 & 2076210

METALBESTOS is a pure aluminum pipe, through which the burnt gases are conveyed, assembled within a galvanized steel casing one inch larger in diameter. The air space between the pipes is an efficient insulator. It keeps the burnt gases hot, preventing their condensing and keeps the outer casing cool, eliminating fire hazard. Pure aluminum is unaffected by the products of combustion and, therefore, long life of METALBESTOS is assured. Opposite crimped ends of the two pipes provide leak-proof connections.

COMPLETE LINE OF FITTINGS FOR BOTH ROUND AND OVAL PIPE

Made in both round and oval shapes and in 3' and 10' lengths.
Sizes—Round—3" to 12"
Oval—3" to 6"



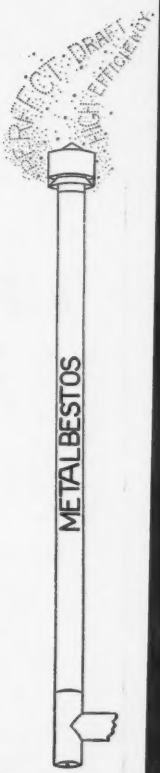
The above illustration tells a story of a solid wall pipe and shows what happens when used as a gas vent or flue pipe. The burnt gases have condensed because the pipe lacks proper insulation. Having once condensed, these gases form destructive acids which cause rapid deterioration. Under such conditions proper draft cannot be established and the efficiency of the appliance is impaired.
Not shown above is the usual drain pipe from the tee, required to carry off the condensate to the sewer nor does it show the ravaging effect of the acids on the pipe and appliance.

ANY PIPE WILL PERFORM IN THIS MANNER

BUT

HOW MANY WILL DO THIS?

This illustration also tells a story—the story of METALBESTOS, "The Perfect Gas Vent and Flue Pipe" and how IT performs. Because of its patented construction the burnt gases are completely exhausted to the outer air under perfect draft conditions. No need for a "drainage system" with METALBESTOS—no floating flame at burner due to lack of draft and no corrosion of pipe or appliance. YES, METALBESTOS DOES PERFORM IN THIS MANNER.



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SOLE MANUFACTURERS

WILLIAMS-WALLACE COMPANY

160 HOOPER STREET **SAN FRANCISCO, CALIF.**

***Approved by* UNDERWRITERS' LABORATORIES INC., *and* UNIFORM BUILDING CODE**

Dictograph Intercommunicating Equipment being used by Customer Contact Clerk in securing credit verification from History records. Loud Speaking Equipment allows both hands of History Clerk free for handling necessary records while relaying information.

IMPROVE YOUR *CUSTOMER CONTACTS*

How *rapidly* can your Contact Clerks take care of service applications . . . bill questions . . . complaints?
How satisfactorily to your customer? . . . Do your transactions pass the "peak load test"?

Unless your Company has a perfect score on these questions you will want to know more about the Dictograph Customer Contact System.

Specially designed Dictograph Intercommunicating Equipment for Contact Clerks provides instant entree to Credit, Meter Records, Service and Unit book information. Green and red signals bring back Credit approval or rejection,—swiftly . . . silently! *Loud speaking* Dictographs for Credit and Service Clerks permit use of *both hands* for record references, enabling personnel to check records speedily and accurately during peak periods.

Existing record facilities can be linked up to centralized Customer Contact Clerks by means of Dictograph. Applications, Duplicate Bills, Comparative Readings, High Bill Complaints, Discounts, etc., can be efficiently and speedily handled.

May we have our Special Utility Representative call to discuss your problem with you . . . . no obligation.

DICTOGRAPH SALES CORPORATION
580 Fifth Avenue, New York

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ASPLUNDH

TREE EXPERT COMPANY

Economical Line Clearing

JENKINTOWN PENNSYLVANIA OGONTZ 3750

Line Clearance Exclusively

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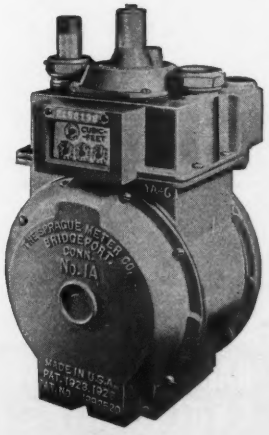
SPRAGUE COMBINATION METER-REGULATOR



LATEST ACHIEVEMENT
IN
GAS MEASUREMENT AND
CONTROL.

For Manufactured,
Natural and Butane Service

Write for bulletin.

THE SPRAGUE METER CO.

Bridgeport, Conn.

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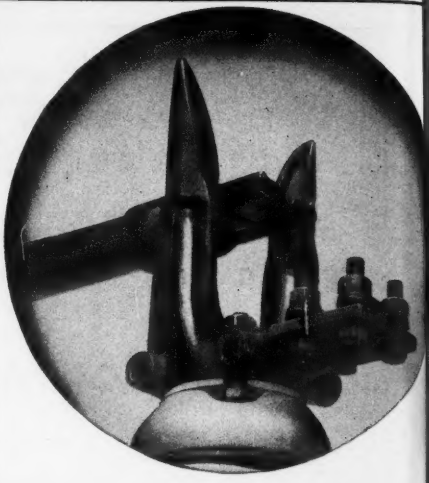
"TESTED *by* E·T·L"

Rubber gloves are symbolic of the tests on linemen's protective equipment which Electrical Testing Laboratories is constantly carrying on for central stations. Last year 46,760 pairs of lineman's gloves were tested, just to be sure that they were electrically safe for linemen to use.

Other equipment used by linemen also undergoes periodic protective tests at E. T. L. Our clients agree that this is valuable and inexpensive insurance for them and for linemen.

Testing Rubber Gloves at ETL

ETL
ELECTRICAL TESTING LABORATORIES
East End Avenue and 79th Street
New York, N. Y.



HI-PRESSURE CONTACTS
characterize all
R&I E SWITCHING EQUIPMENT

•

The Hi-Pressure contact, a feature originated by The Railway and Industrial Engineering Company, has revolutionized modern switch design. Switch contacts are wiped clean of dirt, corrosion, metal oxides, etc., with each operation and a clean metal to metal contact is assured.

Pressure is constant, assuring a contact which is free from the arcing or spitting which interferes with proper radio reception.

The original Hi-Pressure contact switches have been giving satisfactory service under all operating conditions for many years.

•

RAILWAY & INDUSTRIAL ENGINEERING CO.
GREENSBURG, PA.
Sales offices in principal cities

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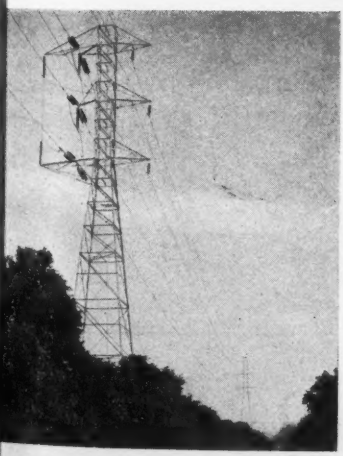
"Hambone speaking . . .
your radio end man"



ALCOA

Scientific stringing methods struck a new high recently when cables for a transmission line were pulled in under short-wave radio control. Two-way communication on an emergency wave length was maintained between the pulling tractor and the payout reels.

The method of communication is new. But the conductors and engineering standards followed have been proved reliable on thousands of miles of line for over a quarter of a century. The cables are A.C.S.R., strung according to recommended A.C.S.R. standards. ALUMINUM COMPANY OF AMERICA, 2134 Gulf Building, Pittsburgh, Pennsylvania.

A·C·S·R

Aluminum Cable Steel Reinforced

FOR RURAL LINES AND POWER TRANSMISSION

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Transmission line construction costs can be materially reduced and completion expedited by using Hoosier Crews

HOOSIER ENGINEERING COMPANY

CHICAGO — 46 SO. 5TH ST., COLUMBUS, OHIO — NEW YORK

Canadian Hoosier Engineering Company, Ltd.
Montreal

ERECTORS OF TRANSMISSION LINES

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New 1941 DODGE *Job-Rated* TRUCKS NOW READY!

BIG MONEY SAVING NEWS FOR TRUCK USERS

HERE'S WHY THEY'LL CUT YOUR COSTS..

Yes, *more than ever,* new 1941 Dodge *Job-Rated* trucks are built to fit the job—your job! The chart (at right) tells why.

Then, too . . . they'll save money on your job because of dependable Dodge *quality*—Dodge *quality* that comes from fine materials; Dodge *quality* that endures because of precision manufacturing and workmanship.

Add it all up! Progressive Dodge truck engineering...reliable Dodge *quality*...Dodge low prices. The sum total is *VALUE*... big *value!*

See your Dodge dealer now . . . for the best truck you ever owned.

DODGE DIVISION, CHRYSLER CORP., DETROIT, MICH.

A TRUCK THAT FITS YOUR JOB *SAVES YOU MONEY!*

Trucks too small for your job or too large for your job are costly.	Dodge builds 112 standard chassis and body models—one to fit your job.
Trucks that are underpowered or overpowered are wasteful.	Each Dodge *Job-Rated* truck has the *right* one of 6 different truck engines.
Trucks with the *right* sized units throughout last longer on your job . . .	Each Dodge truck has the *right* one of many clutches, transmissions, rear axles, etc.
What you pay for trucks is important . . . but what you get for what you pay is even more important.	Dodge *Job-Rated* Trucks are **PRICED WITH THE LOWEST** for Every Capacity

SEE YOUR DODGE DEALER A GOOD DEA ON RELIABLE USED TRUCKS, TO

DEPEND ON DODGE *Job-Rated* TRUCKS

½ ¾ 1 1½ 2 3 TON CAPACITIES 112 STANDARD CHASSIS AND BODY MODELS ON 18 WHEELBASES

*Job-Rated MEANS A TRUCK THAT FITS YOUR J

EGRY
Continuous Printed Business Forms
Your business form requirements are more than met by the variety of quality forms manufactured by Egry. Continuous Forms with or without interleaved one-time carbons; Allset and Foldover individual unit sets; padded and special forms . . . all engineered to your individual requirements . . . a complete form system to expedite the writing of all initial records.
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CRESCENT

CRESFLEX

Non-Metallic Sheathed Cable

Here's an *improved* CRESFLEX using Type R conductors with *flame retarding* and moisture resisting finish *printed* to show the size, type of insulation and voltage. A further advance in construction has been developed by CRESCENT in a new method of applying the protective sheath to provide a more flexible cable that makes for easier fishing and a faster low cost installation.

CRESCENT SUPPLIES

the following choices of insulation for standard building wires and cables:

Code Grade, Type R
30% Performance Grade, Type RP
ENDURITE Heat Resistant, Type RH
IMPERVEX Moisture Resisting Grade, Type RW
SYNTHOL Synthetic Insulated, Type SN

and here is a partial list of CRESCENT products:

Genuine A.B.C. Armored Bushed Cable
Flexible Steel Conduit
Bare Copper Wire and Cable
Flexible Cords
IMPERIAL Portable Cords and Cables
Parkway Cables
Rubber Power Cables
Service Cables
Signal and Control Cables
Trench Cables
Varnished Cambric Cables
Weatherproof Wires and Cables

Also all kinds of special cables to meet A.S.T.M., A.R.A., I.P.C.E.A., N.E.M.A. and all Railroad, Government and Utility Companies' Specifications.

CRESCENT
INSULATED WIRE & CABLE CO. INC
TRENTON, NEW JERSEY

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IT'S EASY FOR UTILITY COMPANIES TO SAVE MONEY WITH VARI-TYPER . . . .

Compose copy for your bulletins, sales manuals, booklets, catalogs, rate schedules, etc. in *your own office* on the composing Type Writer with changeable faces and spaces. Any competent typist after proper instruction can Vari-Type your work to stencil, metal plate or photo-offset master copy with *large savings* and improved appearance.

Write today for new specimen portfolio "How Utility Companies Profit with Vari-Typer" with actual samples issued by organizations in the utility field.

RALPH C. COXHEAD CORPORATION

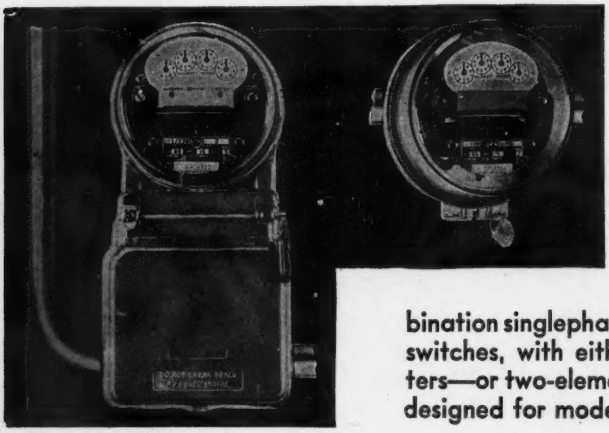
Manufacturers of Vari-Typer

333 Sixth Avenue New York, N. Y.

Public Utilities Fortnightly—The one, complete information service devoted to the policies, practices and status of utilities, as affected by Government, and allied topics.

Conducted as an open forum for the frank discussion of both sides of controversial utility questions.

Issued every other Thursday—26 times a year—Annual Subscription $15.



Sangamo Meters in "A" and "S" Mountings

Sangamo modern meters, whether singlephase watthour meters—combination singlephase watthour meters and time-switches, with either single or two-rate registers—or two-element watthour meters—all are designed for modern "A" and "S" mountings.

Modern Meters for Modern Loads!

SANGAMO ELECTRIC COMPANY
SPRINGFIELD, ILLINOIS

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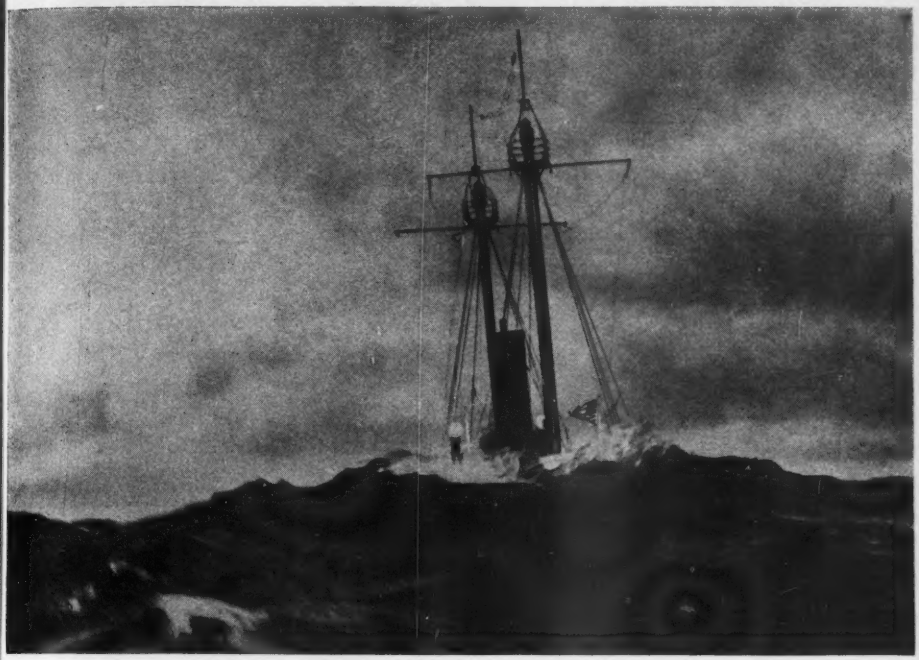

IN FAIR WEATHER OR FOUL, DEPENDABLE EXIDES PROTECT THE LIGHTSHIPS' BEAMS

Exide
BATTERIES

WHEN the weather is at its worst, when storm-tossed craft plowing through mountainous waves are most in need of guidance, there *dare not* be a failure of the lightship's flashing beam or radio beacon.

Nor will there be. For on many of these "floating lighthouses" a dependable Exide Battery stands by, ready and fully capable of instantly taking over the vital electrical load of the lightship.

It is well to remember, whenever dependable battery power is needed, that Exide Batteries are widely used by various branches of the government service, and that this high regard is shared by many utility companies all over the nation.

THE ELECTRIC STORAGE BATTERY COMPANY

The World's Largest Manufacturers of Storage Batteries for Every Purpose

PHILADELPHIA

Exide Batteries of Canada, Limited, Toronto

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Face to face with lightning

FINAL inspection, before CSP Transformers face a direct stroke of lightning in Westinghouse tests. No other laboratory simulates service conditions by this type of high voltage *commercial* testing. This Westinghouse operation pays big dividends to utilities through better lightning protection. Similar production-line testing facilities are utilized in inspection of other Westinghouse power distribution equipment such as meters, arresters and cutouts, boosters and insulators to help you keep your station and line maintenance at a minimum and assure uninterrupted service to your consumers.

Westinghouse activities in research, in the manufacture, distribution and application of apparatus, and in promoting the use of electricity, result in better service to you and a wider use of electricity by your customers. They have been made possible and are continually encouraged by your purchases of Westinghouse apparatus.

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY, EAST PITTSBURGH, PA.

Tune in "Musical Americana," N.B.C. Red Network, Coast-to-Coast, every Thursday evening.

Westinghouse

ELECTRICAL PARTNER OF THE CENTRAL STATION INDUSTRY

"See-A-Mile" MASTER-LIGHTS

Speed Up Your Repair Crews!

Faster, safer night repairs! That's what MASTER-LIGHTS' *HIGH POWER* and *ONE-HAND AIMING* mean to your repair crews! MASTER-LIGHTS' brilliant mile-long beams even spot broken insulators at a distance in any weather. They give your repairmen the light they need to work faster in greater safety! And your drivers will praise the One-Hand Controls of roof-mounted MASTER-LIGHTS—for this patented feature gives them greater convenience in locating trouble spots and more safety in driving!

You'll find MASTER-LIGHTS soon pay for themselves in time saved. And you'll find replacement costs amazingly low—for MASTER-LIGHTS are built to last! Rust and weather-proof construction is all aluminum, brass, and bronze, heavily chromium plated—reflectors are fully parabolic, triple silver plated.

TYPE F5 MASTER-LIGHT

(Illustrated below)

For General Utility Purposes

Searchlight Range: over one mile. Special Super-powerful two-filament bulb, with long-burning, low power consumption service light; or brilliant 150,000 to 200,000 candle-power searchlight. 3-way toggle switch operates both filaments. 6-in. diameter reflector.

MAKE YOUR OWN TESTS!

Your *own* operating conditions — your *own* service usage—these are the proving grounds you can trust! Send now for the MASTER-LIGHTS you need. We'll ship them to you at once for 30 days FREE TRIAL. Then—watch overtime emergency crew payrolls shrink — worker efficiency rise! And remember—when you decide to make your MASTER-LIGHTS standard equipment, you're in line with outstanding public utilities all over the country!

Choose Your Lights Now

Our new folder, "1940 MASTER-LIGHTS" illustrates and describes our full line of public utilities searchlights and floodlights. You'll find the MASTER-LIGHTS you need in it! Write for your copy today. Address,

***Above:* TYPE T MASTER-LIGHT**

Roof Searchlight for Repair Cars, Busses, Trucks, etc. "Gearless" Inside Control.

Searchlight range: one mile. Most powerful automobile spotlight made. Points in any direction. Penetrates smoke and fog. Operates economically from car battery. Friction device holds light in any position regardless of vibration or rough roads. 6-in. triple silver plated reflector. Construction is of the best throughout. Rust and weatherproof. No gears to wear and rattle.

CARPENTER MFG. CO., 179 Sidney St., Cambridge, Mass.

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This New RIDGID Tri-Stand Vise Really Saves you work

LEGS fold up snug to go where your work is. Sets up rigid, hard to knock over — ceiling brace and screw-down feet, if you want to use them. Special malleable frame is a whole work bench—lots of room for oil cans, dope pots; slots to hang a flock of tools handy; pipe rest and three benders that won collapse your pipe. Chain o yoke, with highest quali tool steel jaws. An outstand ing value in convenience built to take the punishmen Saves you work *AND* money Buy from your Supply House

New RIDGID Chain Tri-Stand. Capacity: 4"

THE RIDGE TOOL CO., ELYRIA, OH

RIDGID PIPE TOOLS

RIDGID PIPE TOOLS

In use all over the world

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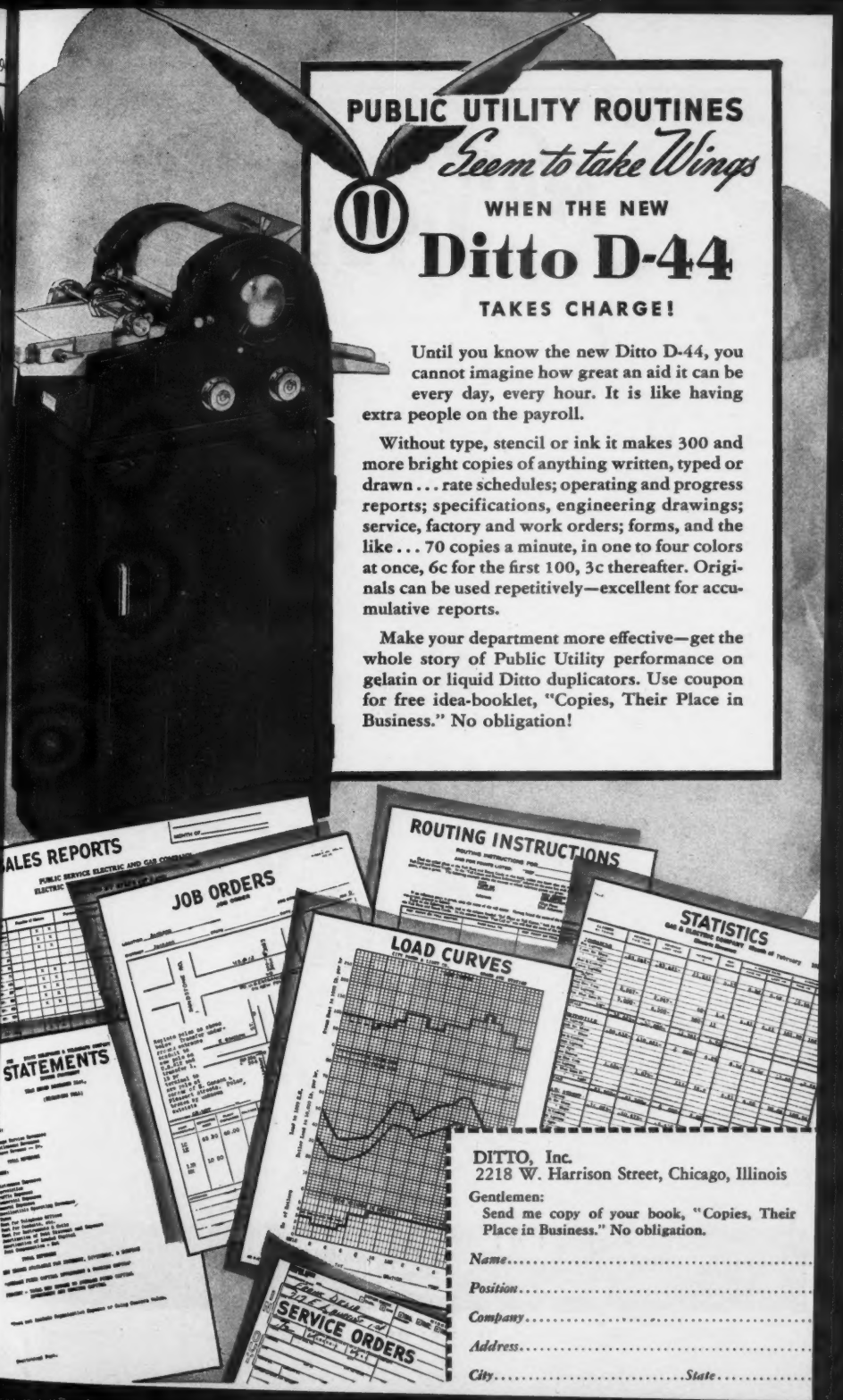
PUBLIC UTILITY ROUTINES
Seem to take Wings
WHEN THE NEW
Ditto D-44
TAKES CHARGE!
Until you know the new Ditto D-44, you cannot imagine how great an aid it can be every day, every hour. It is like having extra people on the payroll.
Without type, stencil or ink it makes 300 and more bright copies of anything written, typed or drawn . . . rate schedules; operating and progress reports; specifications, engineering drawings; service, factory and work orders; forms, and the like . . . 70 copies a minute, in one to four colors at once, 6c for the first 100, 3c thereafter. Originals can be used repetitively—excellent for accumulative reports.
Make your department more effective—get the whole story of Public Utility performance on gelatin or liquid Ditto duplicators. Use coupon for free idea-booklet, "Copies, Their Place in Business." No obligation!
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How Insulating

The Babcock & Wilcox Company
Refractories Division
85 Liberty Street New York, N. Y.

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Firebrick *can increase* GAS SALES

Industrial gas salesmen are getting more business from old customers, and signing up new ones—with the aid of B&W Insulating Firebrick. One salesman increased the gas consumption of a large plant fivefold—from 2,000,000 to 11,000,000 cubic feet of manufactured gas per month.

B&W Insulating Firebrick, with their high insulating value and low heat-storage capacity, save fuel, reduce heating up time by 40 per cent, and increase furnace production correspondingly. Hence, many furnaces in which gas cannot be used economically, may be converted to gas at a lower fuel cost when the lining is changed from dense firebrick to B&W Insulating Firebrick.

Details of this sales aid will be gladly supplied upon request.

R-115-T

BABCOCK & WILCOX

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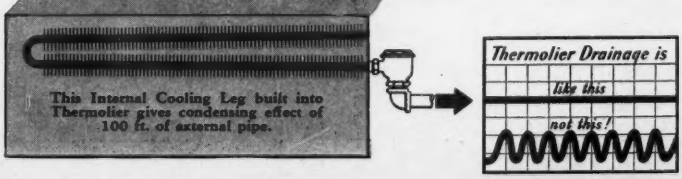
typifies Thermolier's advanced design!

There's one quick way to tell which unit heater is engineered to give maximum *overall* economy. Find out which one produces continuous "full heat" from all radiating surfaces, in *actual performance*, as well as standard rating tests!

Only Thermolier has the exclusive Internal Cooling Leg that insures *continuous* drainage of condensate . . . *continuous* live-steam radiation from all surfaces. It eliminates intermittent drainage cycles that cause temperature variations and losses in heating efficiency.

This is but one example of original Thermolier features that provide cost-cutting simplicity of installation, fuel-savings up to 27%, and lower maintenance costs.

Write for complete Data Book on Thermolier . . . the unit heater so efficiently designed that it has required no changes since its original development! Available in 37 types and sizes. Grinnell Co., Inc., Executive Offices, Providence, R. I. Branch offices in principal cities of the United States and Canada.


This Internal Cooling Leg built into Thermolier gives condensing effect of 100 ft. of external pipe.
Thermolier Drainage is
like this
not this!

GRINNELL THERMOLIER

THE UNIT HEATER WITH 14 POINTS OF SUPERIORITY

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There's Buy Appeal In the Modern Design of NIAGARA GAS FURNACES

COMPLIES WITH NATIONAL SAFETY REQUIREMENTS · AMERICAN GAS ASSOCIATION · APPROVED ·

THE eye-appeal makes a buy appeal in Niagara Winter Air Conditioning and gravity units. Modern casing design . . . concealed controls . . . copper chrome cast iron: or . . . Toncan iron heat exchangers . . . the choice of belt or direct drive blowers with two-speed control . . . the exclusive Niagara summer-winter switch . . . combine with high efficiency and low prices to give you a furnace appreciated by home owners and builders alike.

Write for complete information

The Forest City Foundries Company

2500 West 27th Street **Cleveland, Ohio**

Established in 1890

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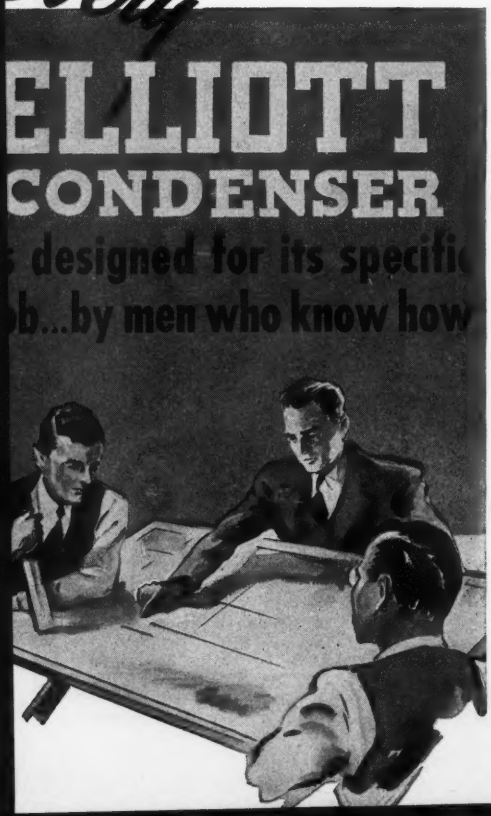
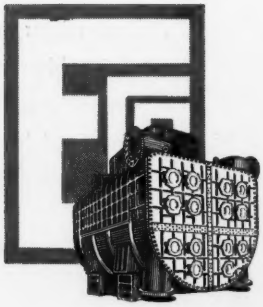
There's no such thing as a standardized condenser

It's a highly specialized engineering job to build just one condenser. Elliott engineers have built many — each one carefully designed to do its particular job.

Elliott engineers thoroughly and positively go into details—load factor, water temperature, pumping heads, value of vacuum, water quality and quantity, initial cost, and operating expense — all are analyzed for the individual requirements. The right condenser for the job is always the result.

An outstanding record of successful condenser applications makes the Elliott staff of engineers particularly capable of helping you with your problem. No obligation. Write us.





ELLIOTT COMPANY

Heat Transfer Dept.

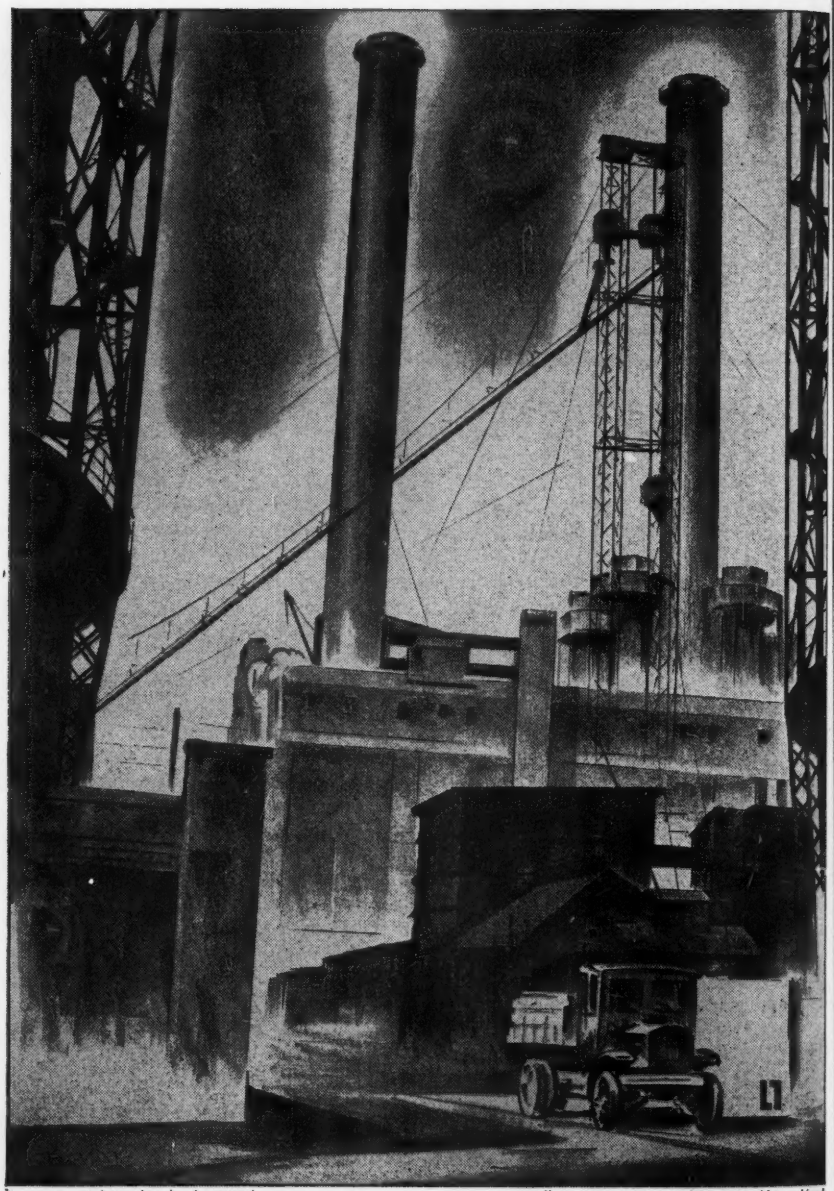
JEANNETTE, PA.

District offices in Principal Cities

Utilities Almanack

OCTOBER

10	Th	¶ *American Gas Association ends convention, Atlantic City, N. J., 1940.*
11	F	¶ *National Safety Congress and Exposition are concluded, Chicago, Ill., 1940.*
12	Sa	¶ *Tennessee Independent Telephone Association will hold convention, Nashville, Tenn., Oct. 28, 29, 1940.*
13	S	¶ *North Carolina League of Municipalities starts convention, Charlotte, N. C., 1940.*
14	M	¶ *EEI Transmission and Distribution Committee opens meeting, Atlanta, Ga., 1940.*
15	Tu	¶ *American Railway Bridge and Building Asso. opens meeting, Chicago, Ill., 1940.* ¶ *U. S. Independent Telephone Association convenes, Chicago, Ill., 1940.*
16	W	¶ *Independent Petroleum Association of America starts meeting, Dallas, Tex., 1940.*
17	Th	¶ *Independent Pioneer Telephone Association holds convention, Chicago, Ill., 1940.*
18	F	¶ *American Water Works Association, New Jersey Section, opens meeting, Atlantic City, N. J., 1940.*
19	Sa	¶ *American Petroleum Institute will hold annual meeting, Chicago, Ill., Nov. 11–15, 1940.*
20	S	¶ *American Dietetic Association opens meeting, New York, N. Y., 1940.*
21	M	¶ *National Electrical Contractors Asso. begins convention, Jacksonville, Fla., 1940.* ¶ *American Water Works Asso., Ky.–Tenn. Section, convenes, Lexington, Ky., 1940.*
22	Tu	¶ *National Electrical Wholesalers Association starts semiannual convention, Pittsburgh, Pa., 1940.*
23	W	¶ *New England Gas Association, Operating Division, starts convention, Hartford, Conn., 1940.*



From an etching by L. Lozowick *Courtesy, Kennedy & Co., New York*

Gas Tanks

Public Utilities
FORTNIGHTLY

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Gas—In Peace and War

How will gas utilities fare in the industrial and economic shifts of the immediate future?

BY FLOYD W. PARSONS
EDITORIAL DIRECTOR, GAS AGE

WE are witnessing a world revolution, not merely a destructive European war. Throughout the earth a terrific struggle is taking place between two basic and opposing philosophies of life and government. None of us can be sure where the lightning will strike next, or what the final outcome will be. The one thing we do know is that most of yesterday's viewpoints are gone for good—there will be no return to what we have called "normalcy." Yesterday is a dead number.

The present is a good time for all of us in the gas industry, as well as in other basic lines of business, to take stock of ourselves and determine where, and how, we fit into the current picture. How essential is gas in this present hour of emergency? What part will it play in the nation's defense preparations? Will it be regarded as a preferential line of business? Will its operations be widened, or restricted, by the huge program of expenditures for military supplies and equipment?

As America gradually changed from an agricultural nation to one that depends chiefly upon industrial activities, coal, oil, and gas became increasingly important until today heat ranks with food and clothing as a vital human necessity, and is the basis of American life and industry.

ALL the water power the nation possesses, if lumped together, becomes insignificant when compared to the total heat energy required to carry

on the normal day-to-day activities of the people who live in the United States.

Other fuels, as well as electricity, have their places in the economic system. But it is now widely recognized that gas performs certain essential work in a manner that cannot be equalled by any other known source of heat. That is why people familiar with the potentialities of gas are convinced that this fuel has hardly more than commenced to serve the nation, and is on the eve of its greatest contribution to human welfare, comfort, and cleanliness.

Not many people realize that the investment in the gas business now totals more than $5,000,000,000, which sum exceeds the amount of capital now employed in the production of steel. Each worker in the gas industry has behind him an investment of nearly $37,000, which comes close to establishing a record in this direction for all of our major industries. In the automobile industry the money invested in plant and machinery for each worker is $3,500; in the case of steel it is $8,100; and in the case of the railroads $25,900. Wages and salaries in the gas industry are higher than in most other basic lines of business, including steel and automobiles.

Rendering service to more than 15,000,000 American families in towns and cities having a total population of 81,000,000 people, it is evident that, taken as a whole, the nation's gas companies are in as close touch with the everyday domestic life of the American people as is any business in the land. They have an enviable opportunity to promote patriotism and public unity in a time of dire emergency.

SUCH is the position of gas in our country's life. Facts of this kind expose the fallacy of the idea that this business belongs to a "horse-and-buggy" age. Although the first gas plant in this country came along at about the same time as the first steam locomotive, the policies and practices of the industry are definitely modern. New rate structures everywhere are being created to promote sales. The efficiency of appliances is being constantly raised. Magazine and radio advertising is on a national scale; intense efforts are being devoted to cost analyses; air conditioning is receiving constant and careful attention; and chemical and research engineers are striving to produce new and more valuable by-products out of gas and coal.

Even people who are well informed make the serious mistake in their economic studies of not distinguishing between energy for heat and that for power purposes. Where heat energy is desired, gas made from coal or oil transports to the customer three times as much of the original fuel energy as is transported in the form of electricity. Furthermore, the gas utilities are now delivering to the domestic consumer ten times as much in actual energy units as the electric industry is delivering. Therefore, for the gas industry to show a 10 per cent increase in domestic load, it must add as much load as would be equivalent to a 100 per cent increase in the electric load. That is why it is so much more difficult for gas companies to show the same per cent increase.

When you take into account that many manufactured gas companies throughout the United States in recent years have gone to higher thermal

value gases, such as 800 B.T.U.'s at St. Louis, Chicago, Washington, Binghamton, Syracuse, etc., and when you further consider the effects of converting a number of manufactured gas companies entirely to natural gas, it is then easy to understand why some of the figures covering operations of manufactured gas companies in the past few years have tended to present an unfavorable picture.

A SIMILAR misconception has resulted from the rapid progress which has been made in raising the efficiency of practically all kinds of gas appliances and equipment, particularly ranges. Only a short time ago the efficiency of the average gas range was less than 40 per cent. Today, the efficiency of our modernized certified performance ranges which are coming into wide use in all parts of the country is closely approaching 60 per cent. Naturally, that means that less gas is required to take care of an expanding cooking load. It is gratifying to note that the true aspects of current developments in the field of gas usage are now coming to be correctly understood.

It is also being recognized that the possibilities for still higher performance in gas applications are by no means exhausted. The efficiency of electrical equipment is already in the high 90's, which fact renders it plainly evident that gas has a long way to climb before reaching its ultimate goal. It is noteworthy that the economy of gas usage has been sufficient to make it unnecessary for gas utilities and the manufacturers of appliances to undertake to bring about radical and revolutionary changes in order to safeguard their markets and maintain a steady growth. Increasing competition, of course, will be met continually by more vigorous and intense research efforts on the part of the gas industry.

THE growth of gas in the past two decades stands forth not only as an astonishing industrial achievement, but also as one of the best examples of the solid merit in our American system of private enterprise. It was only fourteen years ago when we witnessed the start of the construction era of large-diameter, long-distance pipe lines. We now have in this country about 183,000 miles of gas pipe lines, with more than $2,600,000,000 invested in them. The gas carried through these lines touches the lives of more than 32,000,000 American people. Although natural gas is produced in only 23 states, it is transported into and sold in 38 states. Prior to 1926, we thought that 300

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miles was an unusually long distance to transmit natural gas, whereas at present we think of a long gas transmission line as being 1,000 miles or more in length.

This astonishing revolution in the distribution of gas was made possible by research developments in the art of pipe manufacture; by improvements in the methods employed in locating new fields; by the availability of private capital that was willing to take a chance; and by the changed attitude of oil producers who previously had too often regarded the natural gas tapped in the search for oil as being merely a by-product.

Certainly the future of the gas industry appears in bright colors when all the fundamentals are considered. The manufactured gas companies that render service to more than one-half of the total customers using gas in the United States today are making substantial progress in steadily strengthening both their financial and competitive positions. These companies have clearly disproved the fears of certain advisory services and financial interests that looked upon manufactured gas securities with a large measure of caution, if not definite disapproval. A study of utility reports will disclose a record of continuous earnings that is most unusual in this present period of fear and hesitation.

THE manufacturers of gas have nothing to worry about in coming years respecting the adequacy of their supplies of necessary raw materials—coal and oil. In time of emergency, such as is brought on by war, the gas utilities stand practically at the head of the priority list of fuel consumers. Nothing is more essential than fuel for cooking and heating.

The natural gas companies have reserves estimated to be sufficient to last for two or three decades. In fact, I have here before me estimates from good authorities who place the reserves of natural gas at a figure that will keep the pipe lines loaded for fifty years. Long before we have any worries as a result of the depletion of natural gas, provision will be made to get the gas we need out of coal, oil, peat, shale, and other sources of fuel supplies that are then existent. We can be very sure that the trend away from the burning of coal in its raw state for direct heating purposes will not only continue, but will be accentuated. In the interest of economy and cleanliness, we will seek to get away from the damage done by smoke, the waste of precious values, and the high cost of transporting and carting coal and ashes.

"From $10 to $30 is the annual loss sustained by each person in the United States because of smoke," estimates the Public Health Service. Clothes cleaning, disfigurement of buildings, damaged merchandise, injuries to grass and plants, and loss of light and ultraviolet rays are some of the costs. It has been plainly demonstrated in towns and cities where natural gas has supplanted coal that the universal utilization of gas fuel can create a smokeless civilization with sparkling air and spotless towns.

FORTUNATELY, also, the gas industry is not one that is under direct fire by the forces of the government. Such legislation as has recently been enacted, and as is now proposed, is merely in the direction of present social

Adequacy of Supplies of Raw Materials

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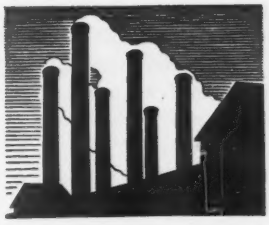

advances, and to a considerable degree is in close accord with the new governmental philosophy concerning corporation responsibility, regulation of interstate commerce, minimum wages, maximum hours, and prudent investment theories in the fixing of rate bases. The gas utilities as a whole are seeking to carry on their operations in a manner that will meet with both public and political approval. It is a matter of satisfaction to the leaders of the gas industry that up until the present moment success has attended their efforts to create and maintain a spirit of trust and good will on the part of both their customers and regulatory authorities.

It is also pleasing to note that in the heat markets of the nation there was never before such wide recognition of the truth that gas fuel can fulfill certain heat requirements in the home and in industry better, or to greater advantage, than any other agent of energy. Furthermore, current developments in American life, such as the increasing activities in the building of low-cost homes that have come down within the range of mass buying, are extremely favorable to the expanding uses of gas.

The tendency in modern housing is to specify that the equipment for the new homes must be compact, clean, and attractive. Even the materials going into the construction of today's homes are of a character, mostly synthetic, which calls for the consumption of a large amount of heat in their manufacture. Right now gas consumption is increasing rapidly in the industries that are turning out building materials.

THE same favorable trend is evident in air conditioning, where gas is destined, by virtue of its inherent characteristics, to play a commanding part. Likewise in refrigeration and water heating, gas equipment is winning wide support, chiefly because of its simplicity, longer life, and negligible maintenance and operating costs. Modern automatic water heaters with average gas rates will heat the same amount of water at a fuel cost no greater than that with a furnace coil or jack pot. Such truth, when widely known, will quickly expand the present water-heating gas load.

In every department of life and industry, technological developments are coming fast, and all of our businesses are being shaped and grooved by these never-ending scientific advances in viewpoints and practices. For example,

public opinion respecting the value of hot water is being molded by the medical fraternity and other groups. Recently it was pointed out that bacteria deposited on glassware, silverware, or dishes cannot be removed by ordinary soap and water washing, but must be sterilized with water at temperatures in excess of 170 degrees F. In this day of an awakened consciousness concerning health safeguards, facts of this kind substantially multiply the opportunities for gas.

People who are fond of good food often prefer dishes that are broiled, so here again is a fact that renders material aid to the exponents of gas. Broiling in modern gas-range broilers can be made entirely smokeless and odorless, through combustion of the vapors. This achievement is quite astounding, for *such a result is only possible with fuels that will incinerate the cooking vapors.*

Those who are wondering why it is that flame heat has so easily maintained its position of leadership in the American picture, may gather from some of the foregoing that perhaps the mistake has been to underrate the importance of natural laws which underlie the preservation and continuation of life on this earth. It is flame heat that keeps us alive and provides us with food—the flame heat of the blazing gas that composes the sun.

AND now if the case for gas has been correctly stated, although only in small part, then we may look forward with assurance to its future steady growth, and to its playing a big rôle in the six epochal years just ahead of us—a period in which we are scheduled to spend about $33,000,000,000 of real money on a record-breaking program of defense—a program that is expected to be carried out in whole, or in large part, whatever may be the result of the present European war.

The gas industry is well prepared to serve the nation a perfect form of essential heat. A few years ago natural gas united with manufactured gas, so today the whole industry functions under strong leadership with common objectives and a united front. The natural gas companies have gradually increased their support of the American Gas Association, until at present they are contributing about 35 per cent of the funds collected by the central administrative body that directs research, advertising, and other national activities.

Also, let us not overlook that more than 400 manufacturers of gas appliances and equipment, who are showing annual sales valued at nearly $600,000,000, add largely to the strength and progress of this great basic business that has so much of the savings of the American people invested in it. There are 65,000,000 policyholders in the United States, and the billions of dollars these people pour into the insurance companies of the nation are invested in a substantial amount in the gas utilities. In fact, public utility securities represent about 40 per cent of the corporate securities owned by all United States legal reserve companies. If the gas companies are rendered injury, the pocketbooks of millions of thrifty Americans are affected adversely.

IT is easy to say that gas usage is widening rapidly. But the proof of the pudding is in the eating, and the

progress an industry is making is clearly indicated by current results. First of all, after ten years of depression; after taxes have risen to a point where they exceed dividends; after the arbitrary creation of government-subsidized competition; after submitting to more severe regulations; after suffering from radical changes in domestic living habits that ushered in prepared foods, drugstore luncheons, cheap restaurants, huge bakeries, commercial laundries, and servantless homes—all of which adversely affected the consumption of heat—the gas industry has succeeded in setting up new high records in practically all departments of its operations.

During this period of hard times and endless worries the number of gas ranges in use has increased by more than 2,100,000. Over 1,550,000 gas refrigerators have been sold, and close to 1,000,000 central-fired, house-heating jobs have been installed. Yearly sales of gas water heaters have climbed close to the million mark. Even more important is the fact that 90 per cent of the new homes now being built in urban communities are being equipped to cook with gas; 74 per cent are installing gas water heaters; and in communities served by natural gas, 86 per cent of the new homes are specifying gas for house heating. All of these percentages show increases over the figures of previous years.

And keep in mind that the U. S. Housing Authority has specified gas for cooking in a majority of its 294 housing projects located throughout the country. When we add to all of this the fact that gas is serving more customers than ever before, and that both sales of gas and revenues are at all-time peaks, certainly optimism seems justified.

INDUSTRIAL and commercial gas loads are increasing at rates that are exceeding all expectations. Almost before we know it the use of gas in factories, mills, and other industrial establishments will reach totals closely approaching the volume consumed in cooking, which not many years ago represented 85 per cent of the whole.

The part that gas will play in our present national emergency should not be underestimated. Because no other form of heat can equal gas in its flexibility, ease of control, and efficiency, this fuel will be called upon to do a tremendous job in the heavy industries. Furthermore, gas will also give the country a large quantity of essential by-products that are necessary in the manufacture of explosives, drugs, antiseptics, and various chemicals.

Few people realize that the total

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annual volume of gas used in chemical processing is almost equal to the total sales of natural gas in this country for domestic purposes—about 350,000,000,000 cubic feet yearly. Out of cracked natural gas we are getting several hundred commercial chemical products, including 20 kinds of alcohol, prestone, resins, vinyon, synthetic yarns, and powerful explosives, one of which now appears to have extraordinary properties far beyond those possessed by TNT. It may easily happen that a product of gas will help shape the course of civilization in the near future.

We hope war will never come to this country, but the gas industry dare not accept any such assumption. It has not only a vital service to perform, but a sacred duty to recognize and carry out. That duty is to take every possible precaution to preserve intact in time of conflict all essential gas services. The experiences of England and Germany provide us valuable lessons.

GAS plants always are primary objects for enemy warplanes. In Europe bombs that have struck holders have shown that the holders do not explode, but burn to the ground. Valving systems have to be put in so that in case of damage to lines, the gas can be turned off at a near-by point. Also, provision must be made to permit gas to be turned into other mains. One city or town may have to get gas from another.

Emergency repair crews have to be equipped with asbestos suits. Coal and coke bins, as well as gas holders, are used as covers for aircraft shelters. Holders must be camouflaged, gas masks made available, and dozens of other safeguards taken to stave off attacks, reduce property damage, and maintain service.

The American gas industry through its committee on national defense is in close touch with government authorities. Marcy L. Sperry, president of the Washington (D. C.) Gas Light Company, is the representative of the gas utilities at the capital. All such problems as sabotage, additional pipe lines to armament plants, and the production of toluol and other essential war products, are being given careful study.

The fundamental advantages of gas, combined with the optimism, confidence, and progressive spirit of the gas fraternity in this country, augur well for the future of the American gas utilities. One recent study of market conditions in the nation's heating fields disclosed a potential unsatisfied demand for 950,000 house-heating installations in manufactured gas territory, and 750,000 in natural gas communities, after making reasonable allowances for mild climates, low buying power, and the use of oil burners. There is an additional market for 1,625,000 gas refrigerators, and for 3,260,000 automatic gas water heaters. Add to this fact that the present replacement market for gas ranges is estimated to be 8,000,000, due to obsolescence, and we have a picture of merchandising possibilities that is extremely favorable.

THESE additional markets would provide the nation's gas utilities with an increased revenue of about $360,000,000 annually in the domestic field alone, over and above the present $805,000,000 of revenue received.

Coöperation with Dealers As an Aid to Appliance Sales

Although the wave of antimerchandising bills to prohibit utilities from selling appliances has apparently subsided in the state legislatures, there is still dissatisfaction among independent appliance dealers in some sections. This author believes that abandonment of appliance sales organization, as such, by utilities and the substitution of active sales coöperation with appliance dealers would not only dissolve such opposition but pay utilities rich dividends in terms of improved public relations and wider public distribution.

By J. E. BULLARD

THE amount of gas and electricity sold for domestic use depends largely upon the number of appliances sold. The method which results in the maximum number of appliances being sold, therefore, is the one which will make the gas and the electric companies the most prosperous.

When this fact was first recognized in the gas industry it was taken for granted that the only course to pursue was for the gas company to sell the appliances. In many cases the company monopolized the sale of gas ranges and other appliances by selling them for less than cost. For example, one gas company was paying the manufacturer $18.50 for a range which it sold installed for $23.50. There was only $5 to cover the cost of installing, trucking, freight charges, financing the sale, collecting the instalments, etc. Obviously, those ranges were being sold at less than cost. No dealer could compete. The company had a practical monopoly on the appliances business.

The result of such a policy, as far as dealers and plumbers were concerned, was that they gave up trying to sell gas appliances. They tried to sell things upon which they could make a profit. In some localities a good deal of support for municipal ownership and operation of gas companies can be traced to dealers and plumbers who believe they should be allowed to sell the appliances and make a profit on them. For some reason or other they believe they would be then freed from all danger of competition under government ownership.

There is another angle to this utility policy of dominating the local appliance sales picture which is worthy of attention. Before I joined the sales department of a central station a good

many years ago, my selling experience had been in highly competitive fields. The contrast between the work I had done previously and the manner in which that sales department was conducted was great. Those firms for which I had been working were in the position where they had to keep selling costs down and sales volume up to points so that they could make a profit on what they sold. Also, they had to meet the competition of others in the same field. This utility central station did not have to do this. Selling appliances was a side line which did not have to pay its way.

WITH passing years and stiffer competition the selling methods of this utility central station have improved to some extent. Yet, it is not in the same position as independent dealers. Its very existence is not dependent upon selling appliances at a profit. There are a good many dealers in that city who still insist they are not being given a fair show.

The principal danger to gas and electric companies which sell appliances is the tendency to grow a "monopoly complex." It is surprising how many perfectly good reasons can be found for sales propositions which give the gas company or the central station a virtual monopoly on the sale of appliances.

The real reason back of this rationalization, however, may be the desire to avoid unpleasant comparisons. If there is full, fair, and free competition with independent dealers there is always the danger that some of these dealers are going to make a better showing than the utility. That is not so good for the commercial manager or his sales people. If there is a monopoly in selling appliances, there can be no such comparisons. This usually means the selling jobs are easier ones and more secure. They do not require so much effort, skill, or experience.

The various methods used in controlling the field have been discussed in this publication often enough. Most obvious is the retail price so low that no independent dealer, with the possible exception of large department stores, can meet it. Again, there are the excessively liberal terms for paying for appliances sold. There is the method of the utility acting as distributor. It carries a stock from which it sells to the dealers.

THE terms of the agreement with the dealers may be such that the dealer is acting more as an agent for the company than doing business on his own account. The propositions offered the dealers may be such that no manufacturer can even hope to do much, if any, business in that territory unless he works through the utility. This system has been used to a considerable degree by gas companies. In the case of a gas refrigerator, where there is no intense manufacturing rivalry, it works better than it does in the case of other appliances which are made by many different manufacturers.

Because gas companies have been inclined to keep control of the appliances sold in their territories, such sales have not always stood up favorably in comparison with the sales of electric appliances. This may be partly due to the fact that the electric appliance manufacturers have been able to secure more complete distribution than gas appliance manufacturers have.

COÖPERATION WITH DEALERS AS AN AID TO APPLIANCE SALES

Some twenty years ago when a gas appliance manufacturer was asked why he did not advertise nationally, he replied there was nothing better he would like. National advertising, he agreed, would increase the volume of his sales to a marked degree provided he had the distribution which would make it possible for everybody who read his advertising to buy any appliance he manufactured as easily as they could buy any of the other nationally advertised products.

However, he thought that because the gas companies controlled the retail sales of appliances, he could not secure complete national distribution. It was not possible for him to sell to all gas companies. There were some who would buy part of his products but not the full line. Only a very few were even in a position to buy all the different appliances he sold. Therefore, he could not go in for national advertising. As a result, he claimed that electric appliances were replacing gas appliances which could have been continued in service had national advertising been practical.

SOME central stations recognized this weakness in a utility selling appliances and gave attention to it early. One method used was to stock and sell every make of every appliance. This plan failed to work because insufficient sales effort was placed back of any one make and the variety offered proved confusing to the consumer. All experience in merchandising indicates the largest volume of sales results when the number of brands sold is reduced to the minimum. In some cases this means just one brand. In other cases there are conditions which call for the selling of more than one brand. So, no utility company can solve the problem by selling the products of all the different manufacturers.

It is probable that the pioneer work in the case of new appliances has to be done by the utility. There is likely to be little or no profit when something new about which the public is ignorant is first being introduced. The possibility of profit comes only after there is a real demand for what is being offered. After that demand is created, however, the number of distribution outlets may be greatly increased. Just when the demand is great enough so the selling can be turned over to dealers is not an easy thing to determine.

Only a comparatively few years ago the sales manager of a large holding company said it would be much better if his company did not have to sell any appliances, if the business could be turned over entirely to the dealers. He

¶ "THE *time is coming when gas and electric companies may not be allowed to dominate the sale of appliances. It may no matter what methods are being used to do the dominating or the degree to which the utility effects a monopoly of sales. Outright antimerchandising statutes are probably too crude to gain much support even if they were valid. . . . But there are other ways, such as antitrust action by the Federal government.*"

insisted, however, there were too few dealers who would do a good job of selling. Sometime in the future they might be able to do so but the time was not yet ripe.

At about that same time one company decided to turn the retailing of both gas and electric appliances over to the dealers. It recognized the fact that if this was done and everything left to the dealers, the results might not be altogether satisfactory to anybody. Therefore, it retained all its salesmen. These men were trained to work with the dealers. They would help them close sales, help them plan and execute campaigns, coöperate with them in any way which would increase sales volume.

The utility, the dealers, and the consumers in this territory appear to be well satisfied with the plan. Any dealer can sell the gas and electric appliances he wishes to sell. He buys them from the distributor or manufacturer he selects. He does not compete with the utility in any way but instead the utility company makes it possible, no matter how small a dealer he may be, to offer the same financing arrangements any other dealer does. In this way the number of those selling appliances is increased to the maximum. There are a larger number of appliance salesmen in the territory than ever before and some dealers are doing a surprisingly large volume of business.

Consumers seem to like the idea because it matters not whether they want a gas or an electric appliance, they can go to the dealer of their own choosing and get it. If they want to pay for it with their gas or electric bills that can be arranged. If they want to pay for it in some other way it is possible to do so. The consumer is given greater freedom of choice and action in buying gas or electric appliances than he is in buying almost anything else and such freedom is necessary if the greatest possible volume of sales is to be obtained.

This plan could not have worked so well had it not been for the fact that the sales force of the utility company was maintained at its former size and no effort spared to spur all dealers on to greater selling efforts and to teach them how to increase their volume of sales. Under such a plan as this there are great possibilities of developing ways and means of increasing the efforts of the dealers. There can be conventions sponsored by the company. There may be prize contests for the dealers. Other plans can be worked out for leading the dealers to take a more effective interest in selling appliances. Coöperative campaigns may be conducted. At the same time the company sales department can study the conditions in the territory, discover what is needed. More information can be gathered in a given time than would be the case if the dealers were not passing on information.

In New York state two things have been done along this line: (1) The pushing of the sale of a gas range with a built-in room heater; (2) the promotion of a water heater designed to function along with the aforesaid range. These appliances were originally planned for families living in homes without a central heating plant or who depended upon coal ranges.

The company which adopted the merchandising plan mentioned is sat-

Monopoly Complex

"THE principal danger to gas and electric companies which sell appliances is the tendency to grow a "monopoly complex." It is surprising how many perfectly good reasons can be found for sales propositions which give the gas company or the central station a virtual monopoly on the sale of appliances. The real reason back of this rationalization, however, may be the desire to avoid unpleasant comparisons."

isfied that it is selling more gas and more electricity to its domestic customers than it would have been selling had it not adopted that plan. It is not all easy sailing. It requires tact to keep from making some dealers feel that others are getting more coöperation than they are. On the whole, however, the plan has worked well in practice.

OBVIOUSLY, the way to sell the maximum number of appliances to the consumers is to have the largest possible number of people selling them. The way to have the maximum number of independent business men friendly to the company is to help them make some extra profit. This plan goes a long way in this direction. And, as already suggested, it cuts off another source of possible public ownership agitation.

Regardless of what merchandising plan is used it has to be sold to the dealers. It may also have to be sold to the manufacturers. This selling job is never completed. The degree of success attained is determined in no small measure by the degree of enthusiasm which can be aroused among the dealers and the amount of profit they make in a year.

Of one thing we may be reasonably certain. The time is coming when gas and electric companies may not be allowed to dominate the sale of appliances. It may not matter what methods are being used to do the dominating or the degree to which the utility effects a monopoly of sales. Outright anti-merchandising statutes are probably too crude to gain much support even if they were valid (which seems very doubtful in the light of court experience). But there are other ways, such as antitrust action by the Federal government. Needless to say, it would be to the lasting advantage of utility public relations to avoid such a threat long before it becomes imminent.

Agitation along this line is still seething because all manufacturers desire complete freedom in gaining distribution for their products. Dealers want the profits on the appliances for which a market has been created by the sale of gas and electricity. Consumers want a wide choice in soliciting appliances, dealers, and terms. The sales efforts of utilities in the future, therefore, might well be directed more toward marketing research and developing and introducing new things for which a need in the particular territory is found. Pioneering, not merchandising, is the obviously desirable rôle of the operating utility industry in the appliances picture.

THE personnel of the sales department under these new conditions is likely to have to be of a higher standard than it ever has been before. Each member of the department could use the qualifications of a research worker or of a sales manager. The sales volume and the profits made by each independent dealer could be raised proportionately. The coöperation with the dealers and resulting increasing confidence in the utility might well soar to a record "high."

Today, there are about 94 "necessities" in this country in place of about 16 which existed a hundred years ago. Almost every common electrical appliance is included in those 78 new necessities which have been developed during the past century. The same is proportionately true of approximately 432 new things which people have been made to want during the same period. The competition for the customer's dollar is greater than ever before. No longer can people buy all the necessities they want, to say nothing of all the things they would like to have but can get along without. This means that the "prize" goes to the industry which has the most effective method of distribution.

It can be taken for granted that the larger the number of people who can make money selling gas and electric appliances and who can make money manufacturing them, the greater will be the number selling them and manufacturing them. The more people selling them and the more people manufacturing them, the greater will be the sales pressure on the consumers of gas and of electricity. The circle is completed when the increased pressure results in a greater volume of sales.

THE best results are obtained only when there is the keenest competition. Any slackening of competition means a slackening of effort. This is the risk (as stated before) which is run when any utility exercises a restrictive type of control over appliances sales. If it is considered essential that certain standards of quality be maintained, some other way than control over sales should be employed.

During the last ten years research laboratories of the manufacturing companies have been busy. Have all the things developed in those laboratories been given their commercial debut? There is reason to believe that during the coming ten years there will be introduced to the people more than the usual number of new things. During this same period taxes will be higher than ever. The added difficulty of launching new appliance lines under such circumstances is obvious.

Methods which have proved effec-

tive in the past may not prove satisfactory in the future because of these changing conditions. It would be impossible to do business today in the same manner it was done years ago. It is well to keep in mind that desires have been created at a greater rate than the financial ability of the people to possess has increased. This is probably one of the reasons why there has been so much agitation for the division of wealth and for schemes such as old-age pensions. People also want fewer working hours to enjoy their new possessions.

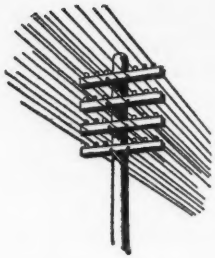
Many of these trends may prove inconsistent with harsher realities of the future, such as the burden of rearmament and economic consequences of the European struggle. But these are all, nevertheless, burdens that must be considered as part of every realistic long-range selling program.*

* EDITORIAL NOTE.—The plan discussed by the author has been adopted by many of the utilities in the larger cities.

Electric Rust Protection

A RECENTLY *developed technique for protecting natural gas and petroleum pipe lines from rust by charging the ground around them with electricity is dangling a huge market before the Texas power industry, according to Dr. Gordon N. Scott, Los Angeles pipe-line technologist. In a recent address to the national convention of the Petroleum Industry Electrical Association, Dr. Scott said that nearly 1,000 such electrically protected units are operating successfully on pipe lines over the country, including those on Treasure Island of the San Francisco World Fair, where salty soil formerly ate up ordinary water pipe within three months.*

Electrical engineers called the new method "cathodic" protection. The cathodic eliminator was first used near New Orleans over a decade ago. One pipe-line company now operating in Texas has 230 electric stations. Dr. Scott estimated that the 8,000 miles of main transmission pipe lines in Texas and some 2,000 miles of gathering line would afford Texas power companies a 15,000-kilowatt market with a 100 per cent load factor.



Streamlining Rural Telephone Service

Modernization of equipment and construction with emphasis on efficient and economic operation is the prime requirement for the establishment of high-grade rural telephone service. To attain this, drastic—almost revolutionary—policies may have to be adopted.

By H. W. BLALOCK

MEMBER, ARKANSAS DEPARTMENT OF PUBLIC UTILITIES

It is believed by many that the possibilities of establishing high-grade rural telephone service is a "lost ball in tall grass." By rural telephone service is meant service to small incorporated towns and villages as well as farming areas. This condition would probably be true if it were not for some courageous and far-sighted independent telephone operators. If these men succeed in their efforts to streamline rural telephone service, another Horatio Alger story will have been written.

There is very little in the history of rural telephone development to encourage these adventurous men. Telephone usage in these areas reached its peak shortly after the first World War. This peak followed a rapid expansion of single wire or grounded lines by individuals and farmer-owned coöperatives. Little attention was given to standards of construction or proper maintenance and, as a result, rural telephone service deteriorated to a very low grade. Following the war, about 1925, many independent companies and individuals recognized the need for an improved quantity and quality of rural telephone service, both local and long distance. The result was that lines in many hundreds of communities were converted to metallic circuits; cables replaced open grounded wires; and, in many cases, common battery central office equipment replaced magneto boards.

In many instances farmer-owned lines were taken over by the companies and connected to the small exchanges or switching service was obtained at the exchange. In many com-

munities restricted service was abandoned for 24-hour service; new and modern telephone instruments were purchased; and general improvements in operations were instituted. Fair success resulted until "Old Man Depression" appeared on the scene.

Other things had happened prior to the advent of the depression which affected rural telephone development. The decade of the twenties was a period of rapid improvement and construction of highways, especially in the South and Southwest. It will be recalled that the ownership of motor vehicles increased very rapidly during this period. The result was that trade centers were changed to the larger towns and cities and many of the smaller towns and villages lost much of the economic significance they formerly had. Then, too, owing to improved speed and ease of motor transportation, coupled with poor telephone service, many people resorted to automobiles for contacting their merchant, neighbor, doctor, etc., and abandoned the inefficient and undependable telephone. These conditions reduced earnings of telephone facilities and thereby made it more difficult to maintain or improve telephone service.

Also, during this period, many other services developed which competed for the consumer's dollar. Electric, water, and gas utility services were extended to many of these areas. These not only required the month-to-month payment for service received, but also required expenditures for appliances such as refrigerators, gas stoves and heaters, electric fans, etc.

THE radio also developed in this period and competed for its place in these consumer homes. Automobiles and other motor vehicles also required a part of the total purchasing power. In short, the telephone had to compete with these and many other modern conveniences for the consumer's dollar. In many cases the consumer decided to dispense with the telephone for these other things. The discontinuance of telephone service would have been at a greater rate during this period if there had not been the effort made to improve it.

Then in the early thirties "Old Man Depression" hit with all the fury of a blast out of the North. Rural telephone service was discontinued very rapidly during the first few years of the depression, owing to a very rapid decline in the purchasing power of the telephone consumers. It is evident that many rural telephone users considered other things more important to them in a period of reduced purchasing power. In general, it can be said that approximately one-half of the remaining rural telephone subscribers had abandoned the service by 1935. In many instances the loss was much greater.

Together with what had happened in the preceding period, the depression almost gave a death blow to rural telephone service. Improvement and expansion for a few years almost stopped of necessity, owing to reduced income. One of the first efforts made by the independent companies after the initial blast of the depression was to reduce rates, but due to poor quality of service and continued low purchasing power, together with uncertainty of the future, not much improvement resulted. As a result, many farmer-owned lines were abandoned through

neglected maintenance and many independent companies failed and went into bankruptcy. Chaos reigned. Many rural telephone properties were purchased at a fraction of their book cost and much regrouping and rearranging of telephone properties ensued.

THE Bell companies were not so hard hit because they had the large city and toll business to offset the relatively small amount of their rural telephone service. However, the Southwestern Bell Company, operating in the Southwest, has sold several of its rural properties at substantially less than their book costs.

By 1937 much of the chaos which had existed in the rural telephone field during the depression had been eliminated. This was brought about by improved economic conditions and stabilization within the industry. This does not mean that the rural telephone problem had been solved—far from it. The former telephone subscribers had not returned to the fold and rural telephone revenue was still at a low ebb. But out of these experiences the progressive and courageous independent telephone men renewed their faith in the possibilities in this field and set their faces to the task—not by faith alone, but also by hard, intelligent work. A tribute is deserved by the independent telephone operators for the effort they have made against many odds to develop rural telephone service. The remainder of this story tells of their efforts.

GOOD business men don't guess their way through a problem. They get at the facts. Facts are obtained by study and analysis of the problem. The Southwest Telephone Company of Brownwood, Texas, operating exchanges in Texas, Arkansas, Louisiana, and Oklahoma, has made a number of such studies. The method, scope, and results can be shown by the analysis of one exchange designated as Exchange A. Exchange A is located in the center of a prosperous agricultural area and acts as a semitrading center for the area. Its population is practically all native white and was practically unchanged at 460 in 1928 and 1938. It had 175 families. The exchange area, including the adjacent farming area, had approximately 845 people and 260 families at the date of the study in 1938. On December 31, 1928, there were 134 city stations, 127 rural stations, and a total of 261 stations in the exchange area. By May 31, 1938, the stations had declined to the following: City 58, rural 11, and total 69—a decline of 192 stations or 73.6 per cent.

¶ *". . . small automatic dial [telephone] boards have an ultimate capacity of 19 lines, 4 links, and 2 trunks. Of course, larger boards can be had for larger exchanges. One company has installed six of the small automatic boards in Arkansas during the past year at an average cost of $1,375, which includes all central office changes. Other costs outside of the central office, such as instruments, minor rearrangements, and additions to outside plant, are in addition to those in the central office but are not large."*

Only 18.4 per cent of the families and 43.5 per cent of the business establishments were users of telephone service in May, 1938.

Economic conditions were satisfactory at the time of the study except for amount of income. The heads of 211 families were gainfully employed; 33 were on old-age pension rolls; 11 were on relief; and one was unemployed. Of the 83 rural families (included in the 256) 51 were landowners and 32 were tenants. The average farm contained 159 acres. Bank deposits in the exchange area were $163,251 on December 31, 1929; $56,166 on December 31, 1932; and $106,095 on June 1, 1938—a recovery of 65 per cent since 1932. Postal receipts in 1929 amounted to $3,338; $2,863 in 1933; and $3,275 in 1937—a recovery of 87 per cent since 1933.

OTHER utility services had not suffered so much as the telephone. The 256 families and 46 business establishments used utility service as follows: Gas 67.2 per cent; electric 50.6 per cent; water 60.9 per cent; and telephone 22.8 per cent. Automobiles were owned by 56.6 per cent; radios by 35.9 per cent; and refrigerators by 9.4 per cent of the families.

It is evident that this community had stabilized its economic conditions by 1938; that considerable economic recovery had been made; that the people were continuing their use of other utility services and increasing them; that they had sufficient income to purchase automobiles, refrigerators, and radio sets. Yet less than one family in five and less than one-half of the business establishments had telephones and the trend in telephone use continued downward after recovery had been evidenced elsewhere. What was the explanation? This company interviewed the nonusers of telephone service to find out. The results were as follows:

Classification	*No. Interviews*	*Percentage*
Cannot afford	118	46.3
Insufficient use	66	25.8
Rates too high	14	5.5
Interested, will take later	18	7.1
Would subscribe if had more users ...	21	8.2
Miscellaneous	18	7.1
Total	255	100.0

The company concluded its study as follows:

> Our primary objective in accumulating these data was for the principal purpose of determining if there were any factors in the conduct of our business in an average community of this type that had a tendency to hold down usage.
>
> The study conclusively shows that the population generally are users of all other types of competitive services and have been throughout the past four or five years.
>
> These tabulations would indicate that our telephone services suffer at the hands of these other forms of competition and that necessarily we must devise other and additional means of combating this competitive condition.
>
> Definite conclusions as to such changes as may be necessary in our policies have not been reached. These tabulations will indicate the immediate realization on the part of every employee that a more aggressive sales effort is needed and necessary.

And that is the picture which faces those interested in the development of rural telephone service. Yet you find optimism, even enthusiasm and a willingness to go forward with new ideas, among the leaders in the field. These new ideas are bringing about streamlining in the rural telephone field. Let us examine them.

THE small town operations differ materially from operations in the farming area. It will be necessary to

Installation of Automatic Telephone Equipment

"THE *installation of automatic* [*telephone*] *equipment in five Arkansas towns (not interconnected) will result in a saving in operating expenses of $476 per exchange, according to company estimates. This is a saving of over 50 per cent. The average operating expenses in these exchanges was $936 in 1939. The estimated annual expense after conversion to dial operation is $460.*"

treat them separately. It has been apparent to telephone men for some time that operating costs must be reduced. They have been looking for new ideas that would reduce these costs and at the same time improve the service. They knew that automatic dial equipment would do this but there were no boards small enough and cheap enough to fit these communities. The progressive leaders contacted the manufacturers of telephone equipment and their efforts have resulted in the production of just such equipment. These small automatic dial boards have an ultimate capacity of 19 lines, 4 links, and 2 trunks. Of course, larger boards can be had for larger exchanges. One company has installed six of the small automatic boards in Arkansas during the past year at an average cost of $1,375, which includes all central office changes. Other costs outside of the central office, such as instruments, minor rearrangements, and additions to outside plant, are in addition to those in the central office but are not large. In most cases the total cost of conversion does not exceed $2,000, where the small boards are adequate. The cost of 100-line boards is approximately $3,000 to $4,000. The use of these boards speeds up and improves the service materially and reduces costs.

The usual plan is to select several neighboring exchanges under common management. One exchange with manual operations is retained as a control center. The neighboring exchanges are converted to automatic dial equipment. Subscribers in the automatic exchanges dial the control center for information, complaints, or toll service. All toll switching, billing, servicing, etc., is done from the control center. The automatic equipment eliminates the need for local operators which is a big item of cost in a small exchange. Some savings are made in centralized billing and servicing.

THE installation of automatic equipment in five Arkansas towns (not interconnected) will result in a saving in operating expenses of $476 per exchange, according to company estimates. This is a saving of over 50 per cent. The average operating expenses in these exchanges was $936 in 1939. The estimated annual expense after conversion to dial operation is $460. These exchanges lacked $353 of earning operating expenses in 1939. The estimated net revenue after conversion is $2,030. The rates were not changed with conversion.

The conversion to automatic service has not resulted in an increased number of customers in all these towns referred to above. In eight towns converted in 1939, with 262 company-owned stations, there were 259 stations in May, 1940. Sufficient time has not elapsed for customer response. The vice president of the company operating in these towns states:

> This modernizing or streamlining of our equipment has not in all cases produced new and additional business. For our properties as a whole, we have gained business in all dial converted exchanges, regardless of their size, but there are some few instances where we have less business today than at the date of the cut-over.

JAMES Thompson, president of the Yell County Telephone Company in Arkansas, has followed a modification of the plan outlined above with very interesting results. This company purchased the telephone properties in six exchanges located in Yell county, Arkansas, from the Southwestern Bell Telephone Company in 1939. Three of the exchanges, Danville, Belleville, and Havana, were grouped in one operating area with Danville, the largest, being the control center. Two other exchanges, Ola and Plainview, operated together with Ola as the control center. The sixth exchange was sold to an individual. Automatic dial units were installed in Belleville and Havana and toll charges were eliminated between them and the control center at Danville. In other words, the three exchanges operate as one exchange without toll between them. The same plan was followed in the other area with the installation of a dial unit at Plainview.

Mr. Thompson believes that such a plan makes telephone service more attractive to the subscribers in that it expands the outlet for telephone service. His belief has been substantiated. When his company took over these exchanges there were 120 company-owned stations, while at the end of his first year of operation there were 187 such stations. The plant investment has been reduced from $17,244 to $10,727 owing to purchase below book costs to the former owner, and operating expenses have been reduced $532. Mr. Thompson is a great believer in personalized telephone service. He has inaugurated an aggressive campaign to sell telephone service through personal contacts. His plan fulfills two requirements found necessary in the survey of Exchange A: (1) More telephone users, and (2) aggressive sales effort.

The future of small-town telephone development rests heavily upon the progressive ideas that are now being tried out in this field.

D. T. STRICKLAND, vice president and general manager of the Southwest Telephone Company, says:

> I think that the question of providing and improving rural telephone service is one of the most important questions before us as an industry today. Just how the situation

will be worked out in the future, I do not know that anyone can predict because it is wrapped up and interlocked by so many elements, many of which are beyond the industry's control.

Mr. Strickland's company has been in the forefront trying to streamline telephone service in farming areas.

It is all in the experimental stage but let us see what is being done: There are two types of strictly rural telephone service: (1) Company-owned and maintained telephone facilities, and (2) switching service where the individual or farmer-owned coöperative telephone facilities attach to the company-owned facilities at the exchange rate border. The company-owned facilities are usually multiparty lines, grounded or metallic, supplying magneto or common battery central office service. Many rural telephone lines, both company-owned and the individually or coöperatively owned, have been poorly constructed and maintained. In fact, many of them have come to be known as "dry-weather lines," inoperative in wet weather. However, company-owned lines are far superior to the others. These conditions are now making it more difficult to resell rural people new improved rural telephone service.

THE new rural electrification program has made inoperative most of these low-grade rural grounded lines through inductive interference. Rural people prefer electric service to undependable telephone service. These conditions make necessary high grading rural telephone service for the future.

These are some of the improvements being tried by progressive companies: (1) Metallizing rural lines; (2) regrouping subscribers on rural lines so as to reduce the number of subscribers per circuit; (3) providing common battery service in areas adjacent to common battery exchanges; (4) reducing rural rates; (5) changing instruments from wall to desk and handset equipment. Yet none of these experiments have produced material results. Telephone leaders believe, however, that when rural income increases and the rural standard of living is raised, all of these experiments will be very helpful. Maybe we are on the brink of that condition now.

In streamlining strictly rural telephone service, certain factors must be taken into consideration. They are: (1) Density of subscribers per mile; (2) high percentage of farm ownership; (3) wide crop diversification and all-year farm income; (4) low tenancy farming; (5) high percentage of native white population.

Reduced cost of rural construction will be very helpful in this program. Recent improvement by manufacturers of high tensile strength wire will permit an increase in the average pole span, which, with other improvements

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now pending, will make it possible to build high-grade rural lines in the future for less money outlay. It is estimated that a high-grade rural line using 16 creosoted poles per mile can be built now for $130 per mile.

ANOTHER interesting experiment is now being tried in extending high-grade rural telephone service. It is too new to evaluate properly. The plan consists of building a metallic line from an exchange located in a trade center to a small rural community. At the end of the trunk line a small dial switchboard (sometimes mounted on a pole) is located. The company provides and owns all of the instrumentalities used in providing 6-party metallic, common battery dial service within a radius of three miles in all directions from the switchboard location.

The advantages claimed for the plan are: (1) Low first cost; (2) intercommunity telephone service; (3) unlimited quality and quantity of service; (4) instantaneous 24-hour service; (5) flat rate service between dial switchboard and control center.

Another streamlined idea is being worked on that is still in the laboratory stage. It seems almost too fantastic to us laymen. The idea is the development of the carrier wave so that the rural electric lines can be used for transmitting the human voice. The carrier wave is now in use on some power systems for company communications. To adapt it to use by farmers utilizing rural electric lines requires more refinements than are now available. Reports from investigators are encouraging. If the developments materialize the whole rural telephone picture may be revolutionized and ultra streamlining may then be the word.

The Public Interest in Public Utilities

"THE public is far more than merely a consumer of service. The public has a much more intimate interest in the public utilities than that—intimate as it may be. The PUBLIC *owns the utilities and owns them just as truly as if they were what is commonly called 'publicly owned.' Owns them directly through ownership of securities, for it is said that there are over five million investors in utility securities. Owns them indirectly through the ownership by insurance companies, banks, trust companies, and privately endowed institutions. This too is the* PUBLIC *and public relations must include the public as security holders."*

—ROBERT TEVIOT LIVINGSTON,
Director of education and commercial research, Long Island Lighting Company.

Executive Diplomacy And Good Public Relations

The task of building good public relations for a public utility company, or any other kind of company, is not a duty that can be entirely shunted off to a hired "expert" or to the shoulders of subordinate employees whose duties bring them into original contact with the customers. Good public relations often begins right at the top executive's desk. This article contains a few suggestions which show how even the "front office" can play its part in developing the good will of the public towards the utility's interests.

By ALFRED M. COOPER

Most public utility executives appreciate to the full their responsibility for the development of good public relations. Occasionally, an intelligent departmental head overlooks this extremely important responsibility. It has been my experience that, in such instances, only a bare suggestion is required to make him conscious of his neglect. There are, unfortunately, some common and definitely unpleasant practices in public contacting to which the attention of executives might be called. For example:

1. Answering the telephone. Many executives, under the pressure of their work, develop habitual gruffness in answering the phone. In some cases they resent the interruption of other activities in which they are engaged by the telephone caller and this resentment is carried over the wire to the customer at the opening of the contact. In other cases this gruffness is simply unconscious defense mechanism. In any case it results in a growled or barked salutation having no friendliness or cordiality in it. I have heard executives who could pronounce the simple opening "Yes?" of a telephone contact with such vicious inflection that the customer at the other end could not help being immediately antagonized.

That this offensive opening of a telephone conversation is largely a matter of habit is proved by the fact that although an executive may be conversing pleasantly with a visitor in his office

when his telephone buzzes, and be smiling as he lifts the phone from its cradle, he may nevertheless respond sharply to his caller, his harsh barking response being altogether out of keeping with his pleasant facial expression. Unfortunately, the person at the other end of the line cannot see the smile that accompanies the bark.

An example of this thing I found, of all persons, in the manager of public relations in a large public utility organization. This man was a past-master at diplomatic converse, who in his office was invariably courteous, even cordial. Yet, during the years I was closely associated with him, never once did I hear him answer the telephone in other than a brusque, harsh, impatient tone. Usually his salutation was, "Yes! Yes! This is ——— talking. What is it?" The latter query fairly oozed impatience, as though the manager of public relations bitterly resented an interruption by some oaf who obviously could have no legitimate reason for calling him up.

2. Interruption of interviews. Have you ever had an experience like this? You are sitting in the office of an executive. Your visit is not in the nature of a selling effort; indeed, you feel that you are doing the official a favor by calling upon him. The buzz of his telephone interrupts your pleasant conversation. It is an interoffice call from another executive who wishes to talk with your host in person. And your host says, "O. K., John. I'll be through here in just a minute."

Now, granting that the requested conference is really important, what is the inevitable reaction of the visitor who is thus, by inference, informed that he must get out of this office in one minute?

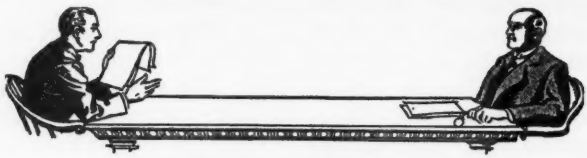
In identical cases I have heard executives, in two instances, make replies that created no ill-feeling whatever on the part of the caller. In one instance the official said, "I'm busy now, John, I'll call you back." There would be no possibility of offending the visitor by such a reply.

In another instance (when it was an urgent call from the executive's superior to come at once to his office), the executive replied, "Just a minute, Mr. Blank." Turning to his visitor he said, in effect, "The boss wants to see me right away. Can we postpone this discussion for awhile?"

Without taking offense the visitor, thus consulted, was glad to coöperate. He had a boss himself, and knew how impatient bosses can be. When the visitor nodded, the executive returned to the phone and said, "Yes, Mr. Blank, I'll be right in." Thus, by taking five seconds for the amenities, the executive obviated the possibility of hurting the visitor's feelings, and accomplished this without delaying the urgent conference with the boss.

3. Interviews with salesmen. In the two instances just referred to, the executives' contacts were with a person who had nothing to sell. Some executives are sufficiently cynical to assert that they never have callers of that type. Let us, therefore, consider the treatment of the man or woman who obviously *does* have something to sell.

When the visitor is an experienced salesman for a large supply house there is little occasion for brusqueness, and no difficulty in terminating the interview. The salesman has no more time to



Diplomacy in Public Relations

"IT is a wise executive who is able to make his company liked by the persons whom he meets or talks with in his official capacity. This is especially true in respect to contacts with customers. Most executives know this; but a few of them are sometimes so thoughtless as to overlook trivial sources of irritation which may lead to ill will toward their companies."

waste than has the executive; and it would be trite to call attention to the fact that the salesman, or his concern, may be an excellent customer of the executive's company. But, there exist, even yet, salesmen who think executives' offices are intended for lounging rooms, who are therefore extremely difficult to get rid of.

Since salesmen must obviously not be allowed to take too much of the executive's time, the question is, how may interviews with salesmen be promptly terminated, and without offense? I have asked more than a thousand executives this question, but most of them have never been able to give a completely satisfactory answer. The most common device suggested was the use of a foot push-button beneath the desk, which, when properly operated, signalled the secretary outside to enter and announce that a superior wished to see the executive at once.

THE two objections raised by other executives to this method are:

(a) That unless the secretary has unusual histrionic talent, she cannot lie with sufficient convincingness to fool the visitor, and the hoax is obvious to him;

(b) that the signal may be given inadvertently, and the urgent message delivered by the secretary at a time when its reception is extremely embarrassing to the executive.

Aside from this subterfuge there seems to be little an executive can do under such circumstances, short of rising from his seat at the time he wishes the caller to leave and remaining standing until the caller leaves. There is no politeness in this procedure, but many executives who otherwise are models of courtesy contend that such a visitor is too thick-skinned to take offense at anything the official may do or say.

Some executives sense that certain interviews are going to be difficult to terminate, and immediately after greeting the visitor announce that they have a conference scheduled in another part of the building in five (or ten, or fifteen) minutes. If this is done pleas-

antly, and time is called on the loquacious one promptly at the appointed minute, it is difficult to see how offense could be taken.

4. Interviews with customers. Perhaps the most delicate situation with which an executive is ever confronted occurs when an exceedingly irate customer enters his office with a complaint as to the physical or personal service he has received from the company. Such a situation is aggravated when the customer's complaint is entirely justified, and when his efforts to get satisfaction have met with a series of stupid "buck-passings" which have sent him to several different departments before he reaches your office.

The executive who meets this customer's insulting display of anger with answering anger is shortsighted. The customer is perfectly justified in being highly indignant at the "runaround" he has been given. Until he has had an opportunity to blow off steam there can never be a satisfactory adjustment made of his complaint.

I recently witnessed such an interview in the private office of a high executive of a large public utility corporation. The consumer would never have found it necessary to come to this official for redress except for bungling treatment in the half-dozen departments he had already visited. He was furious! The overhead line department of this company was using a new type of insulator-washing outfit on its high lines—a tower mounted on a truck, which squirted a solution over the insulators on the pole-tops. This stream of dirty liquid had, in one instance, carried beyond the insulators and ruined the entire Monday "washing" which this man's wife had just hung out on the roof of their flat. He wanted compensation, and quickly.

He got it. But, more important, he left that executive's office with a better opinion of the company than he had ever had. For a solid half-hour he was permitted to unload his burden of grief and irritation, not only in respect to the ruined "washing" but also in respect to other grievances relating to company service. Never once did this important official show anything but sympathetic interest in the angry recital. Not until the customer had completely "unloaded" did the executive go to work on him.

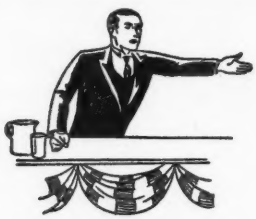
Five minutes later they were both laughing over the incident, which had been adjusted entirely to the customer's satisfaction. The executive then began a little lecture on the company's efforts to give exceptional service. Many of the points brought out were surprising to the consumer; and with his own complaint taken care of satisfactorily, he was in a pleasant, receptive mood. The parting of the two men was like that of a couple of old friends.

After the consumer had left I asked the executive: "Can you justify giving an hour of your own time to that man? Why didn't you send him to your assistant?"

"This man," the executive replied, "had already been sent to too many persons. Somebody botched the job of handling him before he came to me. I'll find out who it was, of course, and try to prevent a repetition of such an occurrence. But at the moment I had no business pending quite so important as to adjust this man's complaint. The only way to handle a case like this is

to let the customer get it all off his chest, and then to begin to square things with him. That man and his friends and neighbors are not going to become enemies of this company if I can help it."

It is a wise executive who is able to make his company liked by the persons whom he meets or talks with in his official capacity. This is especially true in respect to contacts with customers. Most executives know this; but a few of them are sometimes so thoughtless as to overlook trivial sources of irritation which may lead to ill will toward their companies.



Public Employment As Distinguished from Private Employment

"THERE is no absolute and universal characteristic of public employment that distinguishes all of it from all private employment. The nonprofit, monopolistic, impersonal, impartial, and indispensable characteristics of the government have been offered at various times as the distinctive aspects of government employment. Those qualities are supposed to elevate government work above all private enterprise and to entitle it to special consideration in labor disputes. However, these pretentions to uniqueness are not always well founded.

"The nonprofit character of most public works does not apply to government business, such as the Panama Railroad, nor are public works any more nonprofit in nature than many privately endowed institutions, such as universities and hospitals. The monopolistic character of most government enterprises, such as the mail service, does not differ from the noncompetitive character of most private utilities, such as water systems and telephone companies.

"The impersonal quality of the government and its absolute dependence upon human employees is shared by every private corporation. The alleged impartial, nonsectarian, and nonfactional virtue of government is often more true of large-scale business organizations, such as railroads and the telephone system. The public is as much dependent upon various private utilities as upon certain branches of the government."

—DAVID ZISKIND,
Lecturer in Labor Law and Legislation,
American University.

The Forward March

of the

American Gas Industry

An editorial inventory of the progress of operating gas companies throughout the country upon the occasion of the twenty-second annual convention of the American Gas Association at Atlantic City, N. J., October 7th-10th, inclusive.

This special section, composed of statements from leading operating companies and executives of the industry prepared upon invitation from the editors of PUBLIC UTILITIES FORTNIGHTLY, accordingly portrays the active public service, the high ambition, and the adequate preparedness of one of America's oldest and most gallant lines of commercial enterprise.

The Editors

BETTER GAS SERVICE FOR 68 MILLION CONSUMERS

BY WALTER C. BECKJORD,

President, American Gas Association

THE gas industry takes justifiable pride in the fact that it has been a pioneer in testing equipment utilizing its product for the benefit of its consumers. In recent years an increasing demand has arisen that various products offered for sale comply with recognized standards.

The gas industry was among the first to establish tests to accomplish this purpose, based on standards prepared in advance by governmental experts, national technical societies, and consumer organizations in cooperation with gas companies and gas appliance manufacturers.

Opening of the permanent home of the Pacific Coast Branch of the American Gas Association Testing Laboratories marks another forward step in this movement in the public interest first undertaken in 1925. The plan has been of inestimable benefit to both the consumer and the gas industry.

During the last 15 years our Association's Laboratories have approved by inspection and test some 30,000 separate types and models of gas appliances. As evidence of this fact, all display the nationally recognized trademarked emblem known as the Laboratories Approval Seal. Over 95 per cent of all such equipment now offered for sale displays this symbol.

This accomplishment constitutes the most effective endorsement that can be offered of the soundness of the gas industry's appliance certification program and its acceptance by the American public.

Salesmanship and Coöperative Effort Vitalize the Gas Business

FROM 19,808,000,000 cubic feet of gas sold to 23,669,000,000 cubic feet, is the increase in volume made by this Company, comparing the figures for the year 1935 with the year ended June 30, 1940. This is exclusive of gas sold at the World's Fair.

This increase was made by an extraordinary effort to prove that the future of the gas business must lie in developing and increasing sales volume. No one appliance and no single effort accounts for this result. It is, rather, a utilization of every sound idea in salesmanship available to us. Our effort extended into the field of making rates which would stimulate greater use of gas and thus, by providing increased volume, protect the rates offered the smaller customers.

Using Sales Allies

FURTHER, as far as possible our people are trained to treat the use of gas as a service rendered by a company to its customers, rather than as a commodity to be merchandised. Using sales allies such as plumbers, dealers and other merchandising outlets, has been with us so long as to be no more a novelty. But by careful handling and fair treatment, our sales of appliances through these means have increased constantly year by year, and represent in no small measure part of the indicated increase in sales volume.

Success in selling must be attributed to good selling organization, and that refers to those directly engaged in New Business activity. Successful selling in this Company goes further: it teaches all the people in the Company, no matter how employed, that the first requisite of successful public utility service is that the members of the Company believe in it; and that the development of its usefulness must redound to the advantage of all concerned—the customer, the stockholder, and then to the man himself who helps this undertaking.

Faced Difficult Period

THIS increase in sales did not follow a record of continually increasing sales over a long period of years. Quite the contrary. Like most business concerns, the gas industry and this Company felt the depression and felt it keenly. There was, as is usual in depression cycles, a time lag and the gas industry did not feel the full brunt of depressive influences until sometime after that sad day in 1929, which ushered in a new era and a new conception of business relationships. Gas sales throughout the country suffered a decline, so much so that people were prompted to say that it was a decadent industry. They were misled who, therefore, as a result of this reasoning, pulled down their flag and weakened their effort and their determination to render a necessary public service. There were those who felt that way, even to the extent of indicating that the securities of gas companies were no longer qualified for the best investment lists. It must be said for them, however, that having seen their error, they have striven mightily to overcome its handicap. This is especially noticeable in combination companies where selling energy was given over more to the electric side of the business.

Probably Mr. Herman Russell's contribution had as much to do with the re-awakening of faith in gas prospect as any individual effort. The first problem in the rehabilitation of this industry was to check the downward trend of sales and to turn it back. It is a heartening thing to know that the experience of this Company in this direction is practically that of all gas companies. This is not surprising since, thanks to the efforts of the American Gas Association, gas companies throughout the land are taking the best of each other's experiences and adapting them as far as conditions will permit, to their own operations.

Unity of Opinion

THE outstanding encouragement in the gas prospect of today is not the absence of problems, but the clearness with which they are seen and appreciated, and the support of various efforts being made to unify and cooperatively to make the most of a real opportunity. An example of the unity of opinion is indicated in the remarkable response to gas participation in the World's Fair. Thousands of gas appliances are operating daily in this area. Tremendous quantities of gas are used, and the public is made constantly aware—both by visual display of gas flames and by the products of gas service—that here indeed is something which the community must have. To dramatize still further the gas possibilities and public interest, it is necessary only to appreciate that about 20 per cent of all the people who visit the World's Fair, visit the gas exhibit. But the point of unanimity and coöperativeness lies in the fact that the gas companies and the manufacturers of equipment allied with gas production and gas utilization, got together and made possible this showing, which is without doubt the most comprehensive advertisement the gas business has ever had.

Yes, we are enthusiastic!

CLIFFORD E. PAIGE, *President.*

THE BROOKLYN UNION GAS COMPANY

From the Southernmost Gas Company in the United States, actual latitude 375 miles below Cairo, Egypt,

Greetings

Key West Gas Company

GAS PROGRESS IN MISSISSIPPI

NATURAL gas was first brought to Mississippi in 1930, when the Mississippi Power & Light Company began serving 6,206 customers in 21 communities. Prior to that year, which marked the discovery of natural gas in Mississippi, this company had served artificial gas to a few customers in the state.

Three cities were served with artificial gas in 1923, this number increasing to 12 in 1929. In the first year of natural gas service, 21 communities were served; customers almost doubled, and MCF sales trebled.

The total gas load for the company has increased steadily since the advent of natural gas. To a great extent this has been due to the excellent service policy of the company and the constant endeavor to supply gas at a minimum cost.

PROGRESS OF DISTRIBUTING GAS—THE MISSISSIPPI POWER & LIGHT COMPANY

Year	*1924*	*1927*	*1930*	*1935*	*1939*
Customers	1,403	1,675	6,206	14,416	21,339
Gas Sales—MCF	48,503.8	74,450.6	1,229,910.6	4,364,802.7	6,783,575.4
Communities	2	1	21	24	27

THE discovery of natural gas in Mississippi in 1930 is credited with "cushioning" the Great Depression in the State. Drilling operations and the building of gathering systems and distribution lines resulted in several millions of dollars being spent by the utility companies and others at a time when it was most needed.

The Mississippi Power & Light Company has brought the benefits of cheap natural gas to thinly populated areas, a policy which has resulted in increased costs for the company. Unlike the condensed urban population served by many utilities, customers of the Mississippi Power & Light Company are scattered over many miles in smaller communities of far fewer customers, thereby causing distribution and maintenance costs per customer to be considerably higher than in more densely populated sections.

Second largest taxpayer in the state, the Mississippi Power & Light Company, with a personnel of 1,000 loyal American men and women, of whom 99.8 per cent are native-born citizens, is an important factor in the livelihood of the state and nation. Its ability to serve its present and future industries with an abundant source of natural gas on an economical basis is a factor of immeasurable value to the National Defense Program.

THE company receives a dependable supply of natural gas from four pipe line companies: Memphis Natural Gas Company, Southern Natural Gas Corporation, United Gas Pipeline Company, and Interstate Natural Gas Company. This offers assurance to any new industry—private or governmental—of an unfailing fuel supply in whatever locality it may select as a building site. The two lines near the center of the state are tied together at one point, making even more dependable the supply of natural gas.

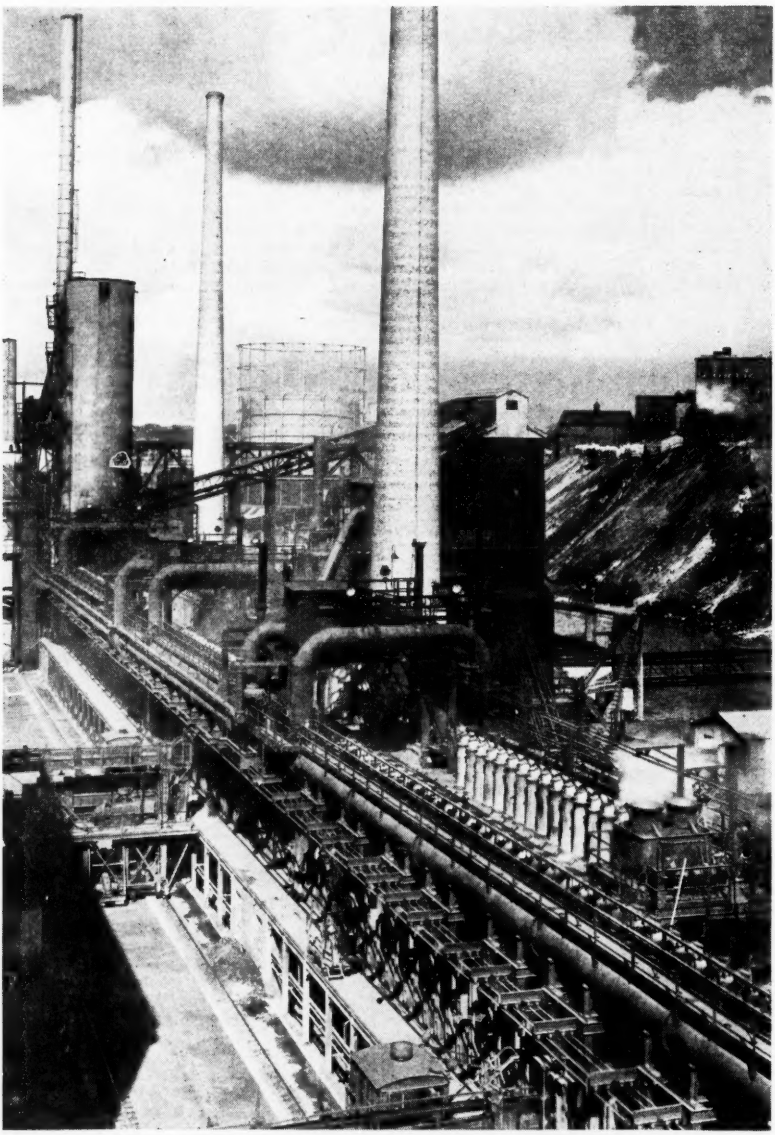
Through its Industrial Development Division, the Mississippi Power & Light Company has been an important factor in bringing new industries to Mississippi to take advantage of the state's natural resources—most important of which are cotton and wood products. As of January, 1940, the Mississippi Power & Light Company served in its territory:

— 27 cottonseed oil mills
—238 cotton gins
— 14 textile and garment factories
— 35 wood product
— 16 milk product plants
— 13 cold storage and packing plants
— 6 feed mills
— a rubber tire factory, a glass bottle factory, lumber mills, and numerous other types of industry.

MANY extensions have been added to the various distribution systems throughout the state since the original construction. In addition, several systems have been acquired, and at the present time the company is in the process of constructing a distribution system to serve Raymond, Mississippi.

In 1939 the construction of a $3,000,000 pipe line from the Louisiana and Texas natural gas field was completed to supplement the rapidly declining Jackson field to assure West Mississippi residential, commercial and industrial customers an abundant supply of cheap, dependable natural gas.

Supplying 112,000 Customers With Dependable Gas Service



ROCHESTER GAS & ELECTRIC
CORPORATION

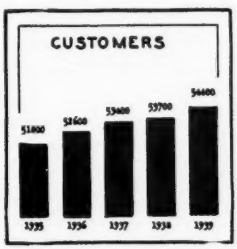
ROCHESTER, N. Y.

Almost a Century of Gas Service

FOR almost a century—in spite of wars, storms, floods or economic disaster—The Hartford Gas Company, a locally owned public utility, has supplied modern, uninterrupted gas service to Hartford, West Hartford, East Hartford, Manchester, Wethersfield, Glastonbury and Bloomfield, Conn.

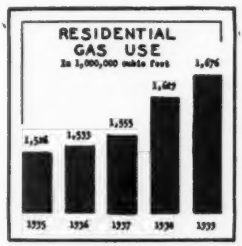
It was in May, 1848, that The Hartford Gas Company, then called The Hartford City Gas Light Company, was organized. Construction of the city's first gas plant was completed in 1849, and in the spring of the following year the first supply of manufactured gas was sent out through the distribution system.

From those scant miles of pipe and limited number of customers, who



used gas for lighting only, has grown a service utilized by more than 55,000 customers, served by a system of more than 430 miles of gas mains, covering seven communities.

The continuous growth of the company can best be indicated by one historical fact — in the last year alone more gas was sent out



for use than the total amount sold during the first 30 years of the company's history.

Coupled with a record of continuous and conservative dividends for over 88 years is the evidence of company cooperation in the consumers' interest as established by nine rate reductions in the last 13 years. Today, its rates are among the lowest in all New England.

Through basic soundness, the gas utility business in general has been exceedingly fortunate in its ability to adapt itself to changing national economic situations. Locally, The Hartford Gas Company has kept constantly in step with all progressive efforts of the industry in its national promotion and study of ways and means for self improvement, in order that the public may be better served.

THE HARTFORD GAS COMPANY

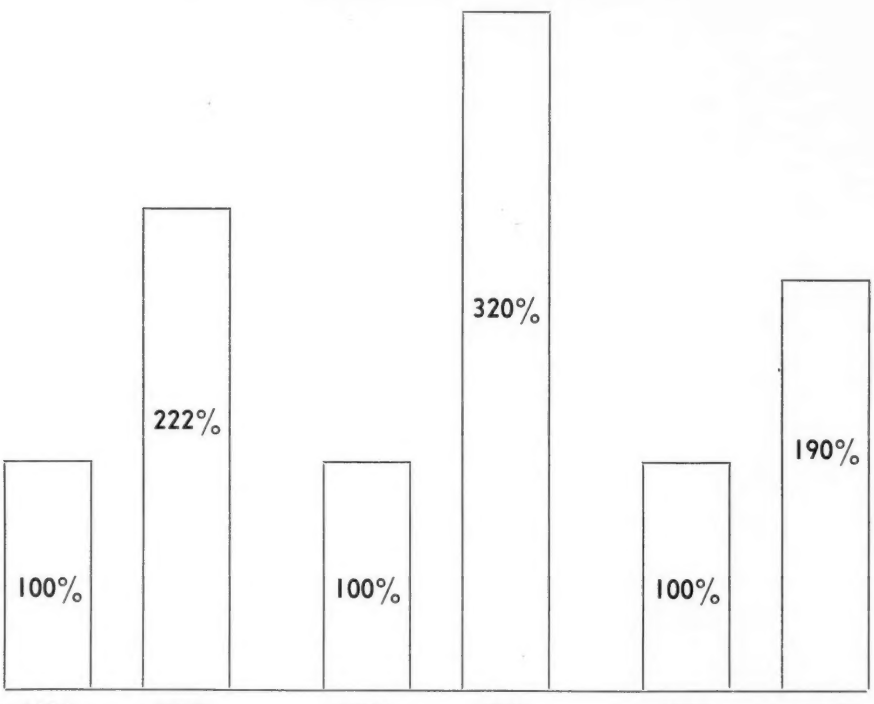
HARTFORD CONN.

NATURAL GAS FLOWS TO A GROWING MARKET IN LOUISIANA

GAS GROWTH & EXPANSION

LOUISIANA POWER & LIGHT COMPANY

Communities, Customers & MCF Sales, 1930-1940



*—Twelve months ended June

The growth and expansion of Natural Gas Service in the territory served by Louisiana Power & Light Company is typical of the way this service is spreading to all sections of the State. Comparing 1940 with 1930 (which will be considered as 100%), the number of communities served by this Company has increased to 222%; the number of customers to 320%; and MCF Sales to 190%. Louisiana's abundant supplies of Natural Gas provide ample fuel for the State's growing needs.

LOUISIANA POWER & LIGHT COMPANY

"Helping Build Louisiana"

"A Remarkable Improvement in Customer Relations"

THE operation of a three-way service system for the handling of customer requests, which was installed by The Laclede Gas Light Company four years ago, has made a remarkable improvement in customer relations.

Calls of a widely varied nature are received by the company at an average of 1,000 per day, and before installation of the new system a survey showed that it was necessary in some instances to hold a call for as long as eight minutes. With more and more customer contacts being handled by telephone (4,843 during an average week) the importance of this service medium was fully realized and officials immediately made up their minds to make the fullest use of its advantages. Records have definitely shown, since the installation, that telephone contacts for service have steadily increased, while personal contacts have steadily decreased.

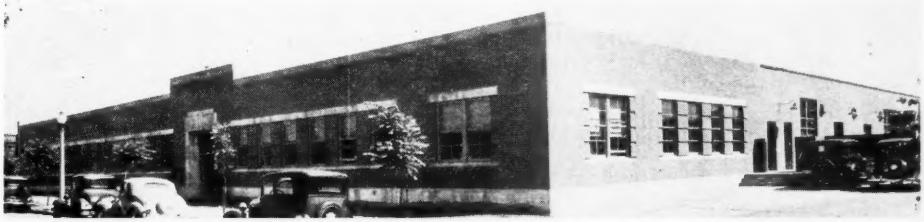
Supervisor's view of Telephone Table at The Laclede Gas Light Company. Girl in right foreground is dropping order in runway to open order desk.

AFTER visiting many systems in use by other companies throughout the country and in coöperation with the Southwestern Bell Telephone Company, the present system was installed. Since installation the maximum waiting time is 30 seconds, and it is estimated that the customer is saved an average of two minutes on every call, or a total of approximately 8,000 hours during a 250-working-day-year.

The system calls for a central order table with a special number where all service calls are received. This table has positions for sixteen operators, eight on each side. All calls regardless of their nature are received by trained employees and handled to conclusion by those persons. The employee, rather than the customer now contacts the department, but the customer is permitted to "listen-in" thereby obviating the necessity of repeating conversations.

A unique feature of the system is an observation board in the supervisor's office which enables him to sit at his desk and listen to telephone conversations. This provides a constant check, gives an opportunity for special coaching when needed. It also permits the supervisor to become thoroughly acquainted with the many different calls and requests by customers. It shows what operators are idle in slack times and how many calls are waiting during busy periods. The equipment has a storing circuit in which all incoming calls, which cannot be immediately answered, are stored and held for an idle operator. They pass out of this storing circuit in the same order in which they are received—which means that the call waiting the longest will flow automatically to the first idle operator. Through the control afforded by this equipment, the supervisor can always maintain an adequate force on the order table and see that calls are answered promptly. Another feature is a metering device by which the total number of calls handled daily by each operator is obtained. There also are special meters which show the number of calls held in storage. These meters are read every thirty minutes each day during the time the operators are on duty.

The telephone contact employees attend a weekly conference where they are reviewed on any new policies, on the importance of courtesy and patience, customers' wants, and an endeavor made to anticipate public demand.



$150,000 *Central Service Station of The Laclede Gas Light Company where Telephone Equipment is Installed.*

SHOWING THE PUBLIC HOW GAS IS MADE

By

SPRINGFIELD (MASS.) GAS LIGHT COMPANY

FOR several years the Springfield Gas Light Company of Springfield, Massachusetts has carried on a regular program of Plant Visitations because it was found that the general public had a keen desire to know how gas is made. A regular program was set up which included a short talk giving the history of the gas industry and of the company, as well as an explanation of the meter, burners and appliances and then a trip through the plant with detailed explanations of the different processes.

However, since plant visitations are necessarily limited to small groups and there was a desire on the part of many larger groups to go through, it was decided to produce a movie that would show the processes in the manufacturing of gas as well as touch on its utilization in domestic, commercial and house heating installations.

"GAS THE BETTER FUEL"

The film which is entitled "Gas the Better Fuel" was filmed under the direction of R. M. Brigham of the Public Relations Department. Two months were required to prepare it.

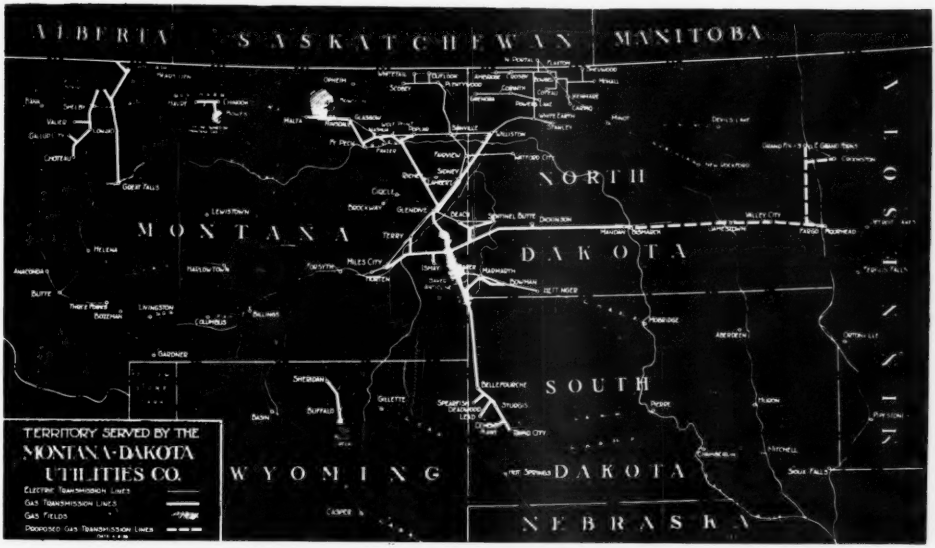
The picture starts with the mining of gas coal and shows scenes from the mines. It then goes to the gas plant and through the manufacturing processes, each of which is illustrated by means of glass laboratory models. Then there are scenes from the meter shop and diagrams of the distribution system as well as pictures of mains being laid. The picture concludes with the uses of gas, showing all types of installations — domestic, commercial and house heating. The showing of the picture is accompanied with a running story given by the operator and requires fifty minutes to present.

GAS MOVIE PROVES POPULAR

From the very beginning this movie has been popular. It has been shown to more than 3,500 people, consisting of groups of boy and girl scouts, high school classes, Y.M.C.A. members, church people, mens clubs, lodges and college classes. At first it was necessary to solicit groups to obtain showings but after a short while people began to call in asking for it. Since it is of an educational nature, it has been very much in demand by teachers in school science classes.

"Gas the Better Fuel" has been shown thirty-two times in the four months since it was finished and at a cost of ten cents per person. It is estimated that it is good for approximately two years of use and at the above rate the final cost per person will eventually be about two and one half cents.

It is felt that the more a person knows about a commodity, the more apt he is to use it and talk about it. This picture serves to provide a knowledge of gas manufacturing and the thousands of people who have seen it will certainly contribute to the good-will which the Springfield Gas Light Company already enjoys.



TERRITORY SERVED BY THE MONTANA DAKOTA UTILITIES CO.

GENERAL OFFICES MINNEAPOLIS, MINNESOTA

NATURAL GAS IN SOUTH DAKOTA AND WYOMING

NATURAL GAS AND ELECTRICITY IN MONTANA AND NORTH DAKOTA

The broken line on the above map shows the proposed Natural Gas Pipe Line extending east from Bismarck into Minnesota

MONTANA-DAKOTA UTILITIES CO.

A Gas Househeating Census

By C. R. RUDY
General Sales Manager
NEW YORK STATE ELECTRIC & GAS CORPORATION

BUSINESS census taking ought to be very cheering to gas men. In the one territory of Central New York alone it records two memorable developments of the past decade affecting the extension of modern gas service. One is the replacement of 537 B.t.u. manufactured gas with 1000 B.t.u. natural gas. The other is the spread of residential house-heating from next-to-nothing saturation to 11 percent.

In 1930 manufactured gas plants in Geneva, Newark, Auburn, Ithaca, Cortland and Elmira, having a total capacity of 12,700,000 cubic feet per day, served approximately 37,000 residential gas customers. The first of these communities to receive natural gas was Elmira, in July, 1931. Ithaca and Cortland followed in 1932—Geneva, Newark and Auburn in August, 1934. Coincident with these changes, rates for househeating were reduced and active promotion of this service was begun.

From 50 *to* 1,500 *in Elmira*

ELMIRA, with over 12,200 residential customers, could count only 50 gas househeating jobs in 1931, compared to today's approximately 1500 out of a total of 13,000 served. The initial campaign begun in September, 1932 featured a rental plan on conversion burners—three cents a day for units without thermostatic control, two dollars per month for those with it. Installation was charged extra. A force of ten salesmen were enlisted, backed up by employee prospecting and extensive direct mail and newspaper advertising. The following year the sales force was reduced to eight, later to six.

For 1933, the first full year of this active promotion the score was 250 leases and 132 sales—in 1934, 305 leases and 105 sales. Reverts numbered about 10 percent.

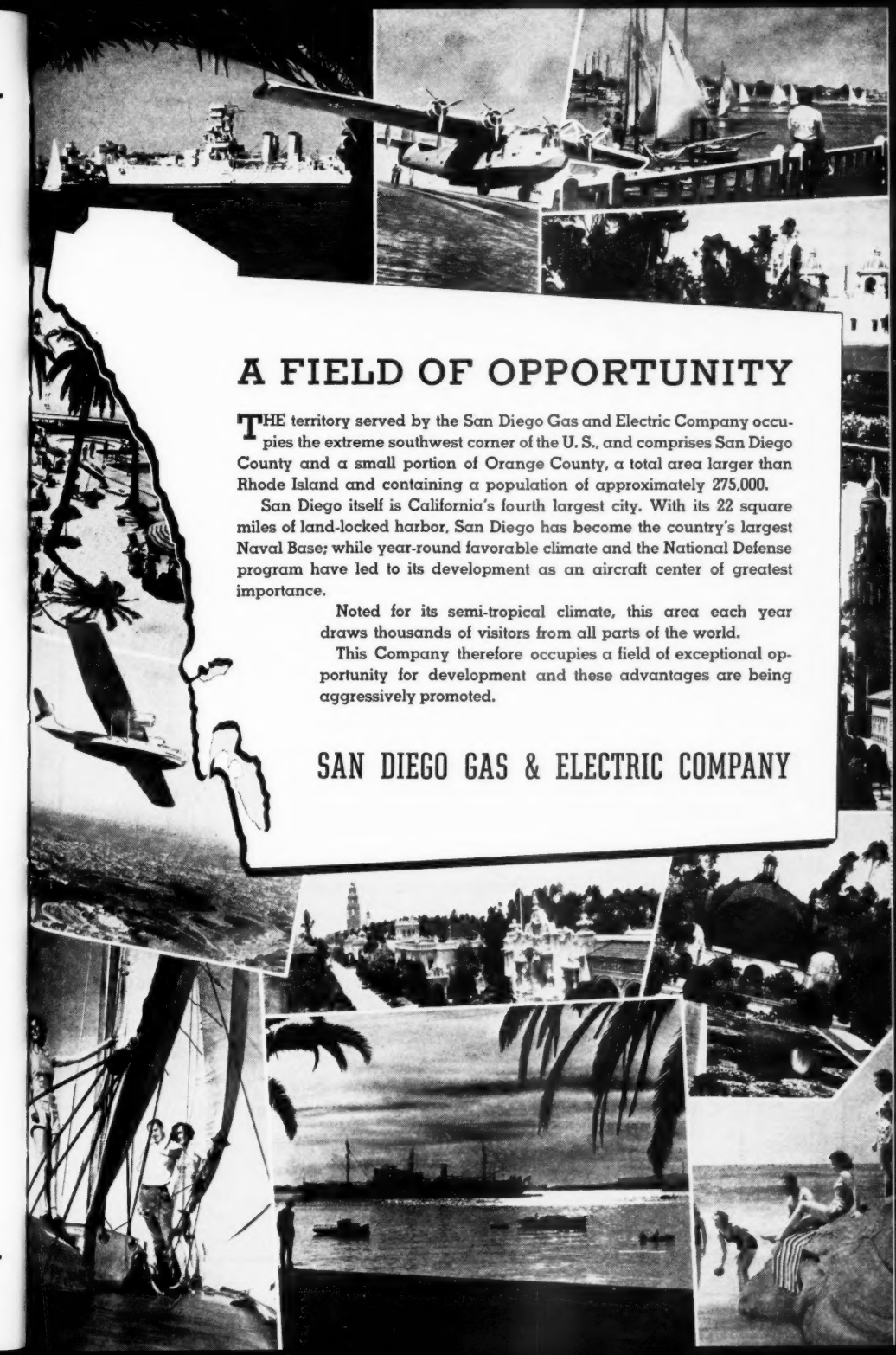
The same general plan was adopted in the Finger Lakes communities following the change to natural gas there. By 1935 the activity reached its peak throughout. That year the Geneva, Newark, Auburn, Ithaca, Cortland territory added 990 net domestic jobs—Elmira 331.

After the first few years the emphasis was withdrawn from the rental plan and campaigns pushed the sale of conversion burners. These were sold on standard mark-up with 48 months' terms. Less than a third of all installations were gas designed heaters, most of these from dealer sales.

Enlisting Customers' Help

"USE the user" campaigns have been used repeatedly. At one time a handy taper lighter was given the customer for prospect names, at another a high quality outdoor thermometer. One of the most effective was the popular Cape Cod weather glass given last year to users furnishing the names of three or more acquaintances who might be interested in gas heating. The weather glasses were advertised solely by letter enclosing a business reply card, and were distributed, individually packed, on personal calls by salesmen.

The decade score to the end of last year was a net total of 4,119 residential house heating jobs for approximately 38,000 meters. Saturation was raised to present high levels of from 10 percent in Auburn to over 15 percent in Ithaca—after deducting reverts, which in Auburn and Geneva averaged as low as 5 percent. At the end of the period the selling field had settled down to a steady average of 2,500 customers per salesman and all but a handful of the rental plan customers had become purchasers. Parallel progress had been made in the promotion of domestic gas water heating, cooking and refrigeration, and gas for industrial and commercial use.



A FIELD OF OPPORTUNITY

THE territory served by the San Diego Gas and Electric Company occupies the extreme southwest corner of the U. S., and comprises San Diego County and a small portion of Orange County, a total area larger than Rhode Island and containing a population of approximately 275,000.

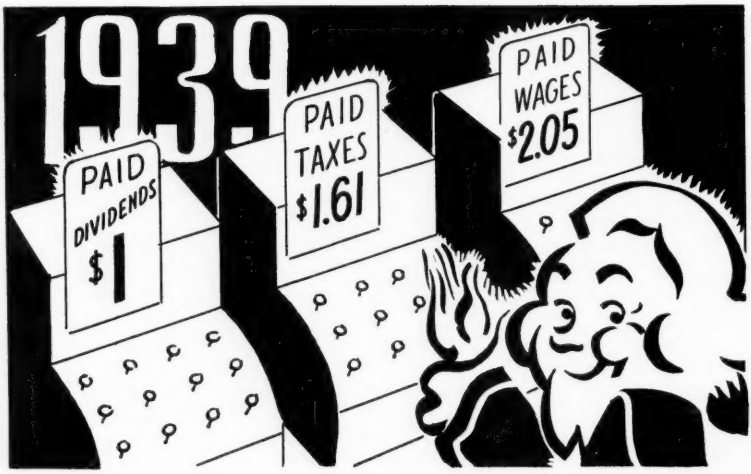
San Diego itself is California's fourth largest city. With its 22 square miles of land-locked harbor, San Diego has become the country's largest Naval Base; while year-round favorable climate and the National Defense program have led to its development as an aircraft center of greatest importance.

Noted for its semi-tropical climate, this area each year draws thousands of visitors from all parts of the world.

This Company therefore occupies a field of exceptional opportunity for development and these advantages are being aggressively promoted.

SAN DIEGO GAS & ELECTRIC COMPANY

Men and Money at Work

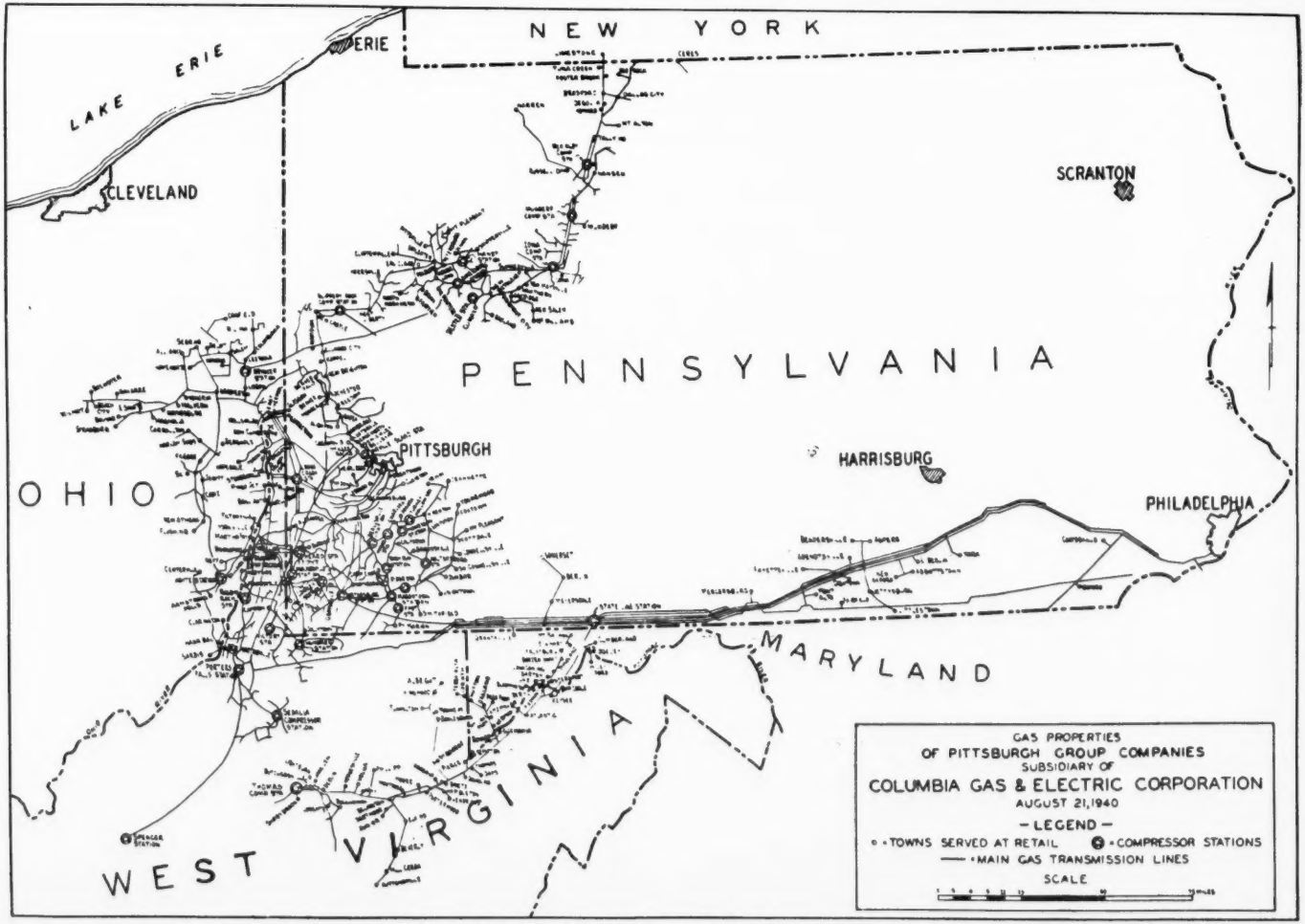


The total investment of Consolidated Edison Company of New York in utility property is about $1,300,000,000. At work in 1939, this investment produced top-notch service to customers, high standards of pay for employes, regular payments to those who had invested their money, substantial contributions to the cost of government.

The record for 1939 shows that for every dollar the Consolidated Edison System Companies paid in dividends, $1.61 went for taxes, and $2.05 for operating wages to employes.

Consolidated Edison Company of New York, Inc.
and System Companies

4 Irving Place *New York*



Submitted by *The Manufacturers Light and Heat Company*

The Kansas City Gas Company Concentrates on Employee Training

FOR many years, the training of employees, who come in direct contact with the customer, has presented the Management with one of its most difficult problems. It has always been realized that this group of employees represents the Company's greatest asset in public relations; however, methods for training this group of employees has not progressed with other departments. Most companies have found a better way to do practically everything within their operation during the past ten years yet most companies are training their employees in the same manner as was used twenty-five years ago.

The general practice is to let one of the older employees teach the new employee to deal with the customer. In many cases, this is quite satisfactory but often the older employees are not capable of being teachers and the management has no way of knowing accurately what is being taught.

It would not be practical to give all contact employees examinations on all questions that the customer might ask in order to find out who is capable of being a teacher. The Management of any Company would be embarrassed if he actually knew how some of the customer's questions were being answered. This, in many cases, is not the fault of the employee but is due to the fact that he was taught the wrong answer in the first place.

REALIZING that it is just as easy to learn the correct answer as the wrong one, if given an opportunity, the Kansas City Gas Company has been using a new method in the training of its Customer Contact Employee. This work started with the employees working on the customer's 'phones. This particular department handles all 'phone calls except those pertaining to installations and service of appliances.

The first step was the installation of an observing system. Through this, it is possible to observe on all customer calls and to find out just what information is being given to the customer. Following the installation of the observing system, several months were devoted to observing and finding out what questions were being asked by the customer and which answer was most satisfactory. These questions and answers were then tabulated under different classifications and inserted in a loose leaf booklet. Each employee of this department was supplied with a copy.

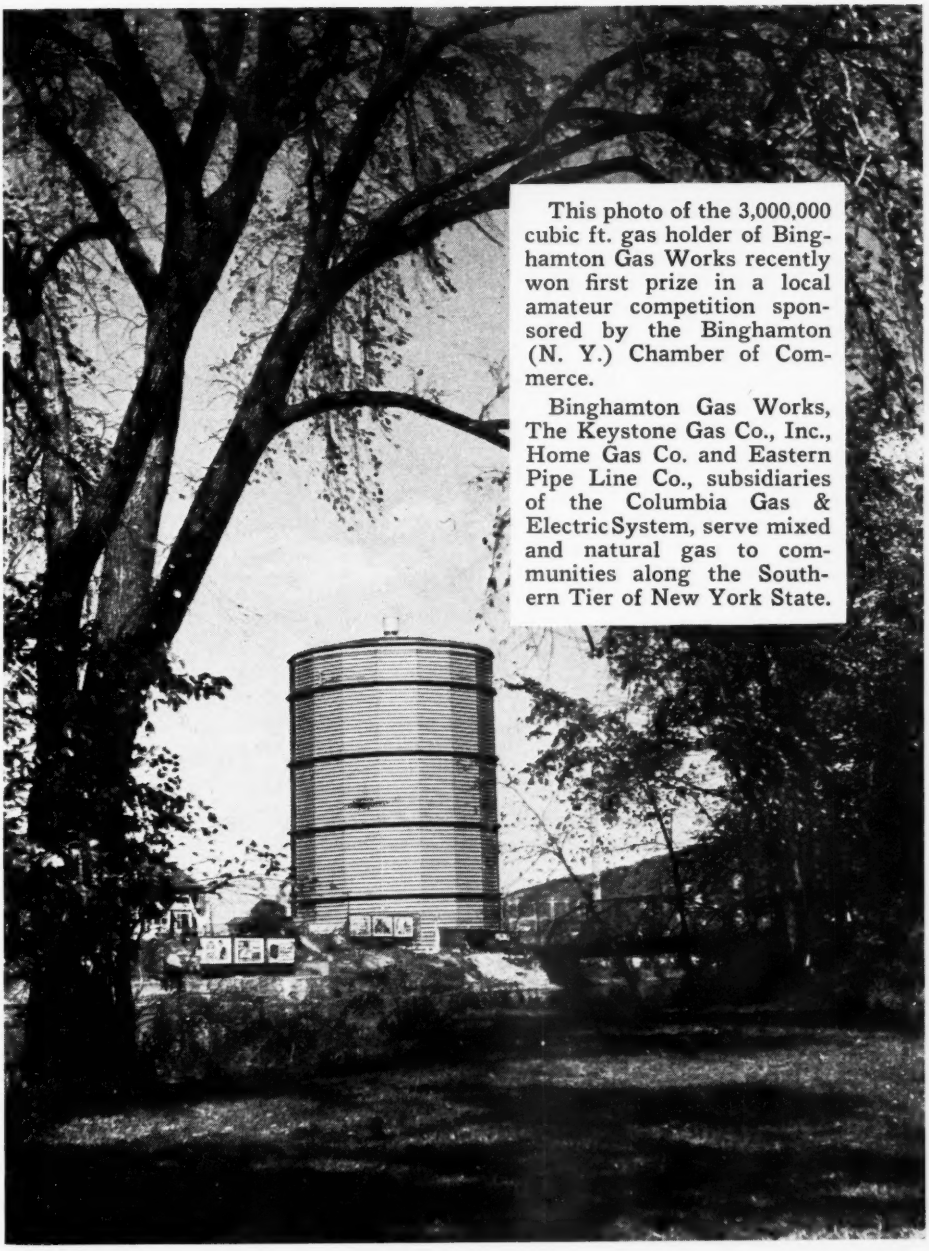
THESE booklets have proved to be very valuable in the training of new employees. It is no longer necessary for them to rely upon their memory of what some other employee has told them. If they are talking to a customer in regard to rates, credits, applications, high bills, etc., they merely open the book to the proper classification and the correct answer is in black and white before them. In this manner, new employees learn the correct answer at the beginning.

Training employees in this manner also has the advantage in that all employees of the department give the same correct information to customers. As the Company policies change, a memorandum written in the manner in which the information should be given to the customer is supplied each telephone employee and inserted in his book. This method of training does not make their conversations sound mechanical. The fundamentals of proper 'phone conversations are taught them and their book merely supplies them with the correct information.

THE employees of this department are observed upon daily and their own conversations, as well as the customer's, are taken down in shorthand. Later, this is transcribed and a copy is given to the employee. This enables them to correct and improve their conversations and also enables the Management to know whether or not the information given the customer is correct.

The employees of this Department receive further training in other departments so that when they talk to a customer they know rather than merely rely upon what some other employee has told them. This plan of employee training has been in effect long enough for the Company to know that it is paying dividends in improving Customer's Relations. Similar training is being carried out in other departments of the Company which deal directly with the customer.

Gas Holder Subject of Prize Winning Photo



This photo of the 3,000,000 cubic ft. gas holder of Binghamton Gas Works recently won first prize in a local amateur competition sponsored by the Binghamton (N. Y.) Chamber of Commerce.

Binghamton Gas Works, The Keystone Gas Co., Inc., Home Gas Co. and Eastern Pipe Line Co., subsidiaries of the Columbia Gas & Electric System, serve mixed and natural gas to communities along the Southern Tier of New York State.

NATURAL GAS

CUT BANK TO BUTTE—225 MILES

MONTANA POWER COMPANY

BUTTE

BEST WISHES

to

THE GAS INDUSTRY

from

New England Gas & Electric Association

Cambridge Gas Light Company, Cambridge, Mass.

Worcester Gas Light Company, Worcester, Mass.

New Bedford Gas & Edison Light Company, New Bedford, Mass.

Dedham & Hyde Park Gas & El. Co., Hyde Park, Mass.

Marlborough-Hudson Gas Co., Marlborough, Mass.

Milford Gas Light Company, Milford, Mass.

Playing in Boston—where they know their music—Sioux City's Monahan Post, American Legion Band, last month won its seventh national championship in concert contests—an unparalleled record. Critics everywhere have lauded this distinguished organization.

SIOUX CITY—HOME OF CHAMPIONS

Out here in Sioux City, in the grass roots of Iowa, where the tall corn grows . . . where literacy is tops and electric rates are low . . . are two justly celebrated organizations. Each is a champion in its own right . . . each is known from the Falls of Minnehaha to the Plaza of the Alamo—from Independence Square to Golden Gate. See them . . . hear them . . . if opportunity ever knocks. They are two of many reasons for Sioux City's greatness.

SIOUX CITY GAS & ELECTRIC COMPANY

The peerless Shrine White Horse Patrol of Sioux City's Abu-Bekr Temple has thrilled lovers of horse flesh from coast to coast. Dashing, colorful, it is reputed to be the only white horse troupe of its kind in the world.

STEPPING ALONG WITH THE NATION'S CAPITAL

NO longer can it be said of Washington, D. C., that it is merely the political capital of the United States. No longer is it a small, provincial city which happens to be the seat of the National Government. During the decade from 1930 to 1940 the population of Washington leaped to 663,000 in the District of Columbia and to nearly a million in the metropolitan area. In the course of its rise to 11th place in size among the cities of the United States, Washington has rapidly come to exercise its rightful leadership in the other fields in which a national capital is expected to stand first—in art, in music, in science, in education. In a word, Washington has come of age.

Nowhere has the growing stature of the Nation's Capital been more strikingly exemplified than in its standard of living. Here, indeed, its leadership is uncontestible. Washington stands at the top, or nearly so, in most of the indices which denote material prosperity—in average family income, in average family expenditures, in ratio of automobiles to population, etc.

The Washington Gas Light Company, which has served the city of Washington since 1848 (when famous Pennsylvania Avenue was a muddy carriage road), is gratified at the part it has been privileged to play in Washington's growth during the past decade.

The story of the spectacular growth of the Washington Gas Light Company is integral with the development of Washington as one of the most beautiful and influential capitals in the world.

Figures showing growth of Washington Gas Light Company and Subsidiaries from 1929 through 1939.

Annual Sale of Gas

1929 ..... 6,142,012 mcf
1939 ..... 12,109,332 mcf
An increase of 97.2%

Increase in Active Meters

1929 131,254
1939 196,116
An increase of 49.4%

MCF per Average Customer

1929 ..... 46.79
1939 ..... 69.65
An increase of 48.9%

Gross Operating Revenues

1929 ..... $6,261,878
1939 ..... $9,248,240
An increase of 47.7%

Average Rate per MCF

1929 ..... 101.88c
1939 ..... 76.26c
A DECREASE OF 25.1%

WASHINGTON GAS LIGHT CO., WASHINGTON, D. C.

Arkansas Offers

exceptional advantages
for low cost

Profitable Manufacturing!

Raw Materials—

Timber of all kinds, cotton and other agricultural products, great variety mineral resources—in abundance.

Good Labor—

Native-born intelligent people with the American attitude of a fair day's work for a fair day's pay.

Low Cost Fuel—

Natural gas, petroleum, coal available in unlimited quantity.

Electric Power—

Our system of interconnected hydro-electric and steam-electric generating stations provides dependable and economical power in any quantity to more than 300 communities in 56 counties of the State.

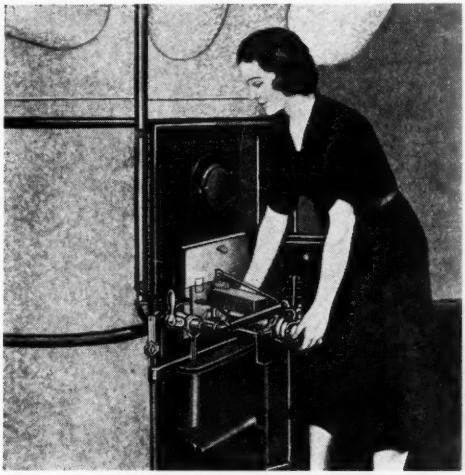
In Addition—

Good water, temperate clime, exemption from state taxes, proximity to materials and to rapidly growing markets of the great Southwest.

FOR SPECIFIC INFORMATION WRITE

Arkansas Power & Light Company

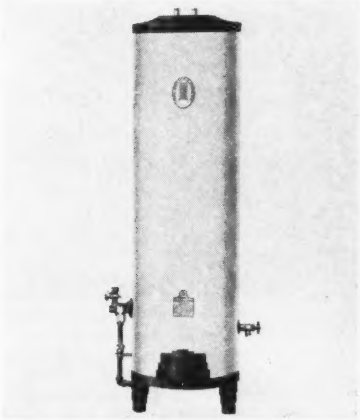
Harvey Couch, President



Conversion Burner—newest development by C&S engineers builds Spring-Fall business to supplement regular gas jobs.

"WOOS and WINS" CUSTOMER ACCEPTANCE WITH 190,000 SALES . . .

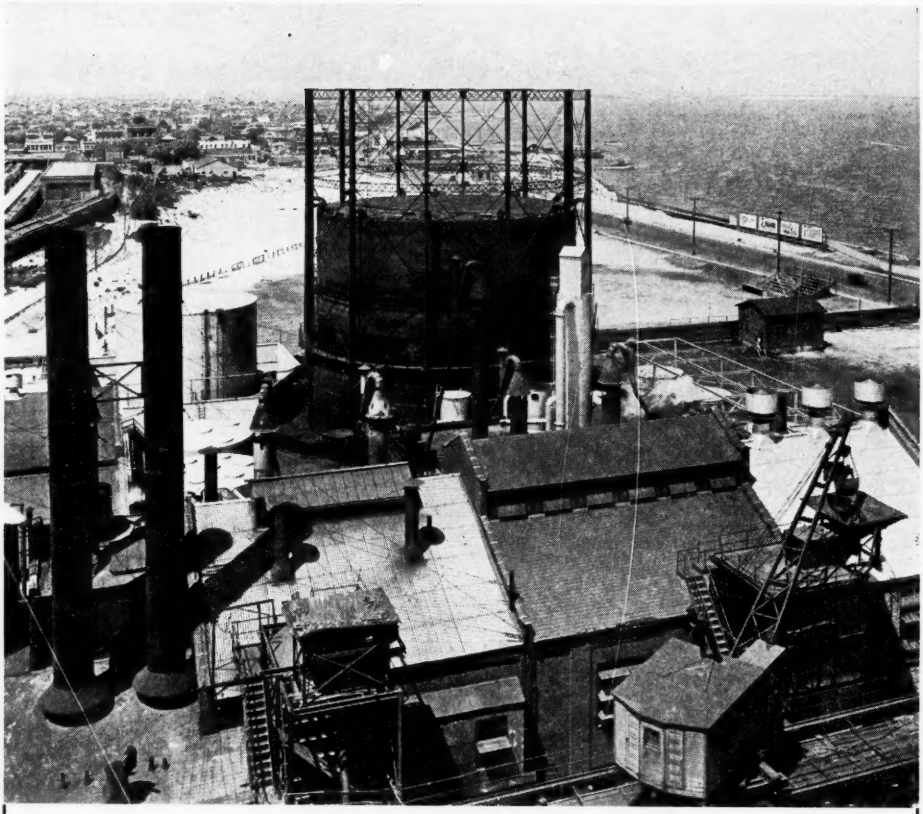
Ten-year Gas Range, Water Heater, Refrigerator and House Heating installations on C&S gas system prove public wants gas conveniences—and point way to continued work.



Famous Handley-Brown line of water heaters are a C&S development. Revived domestic water heating field for gas.

The story of the gas industry's forward movement is strikingly expressed in the results of aggressive merchandising by the Commonwealth & Southern companies. Their policy is built on the premise that customer acceptance is first stimulated with domestic conveniences that are acceptable in appearance, that put more appeal in home life and pay their way in living values. Given these, their sales program is designed to take the message *home*—making appliances easy to buy, to own, to use.

In making gas do "The 4 Big Jobs," their customers have put over 190,000 units in their homes in 10 years, including 125,000 ranges and 47,000 automatic water heaters.



America Forges Its Defenses

Again America must look to her defensive armor and again the gas industry is ready to do its part in the nation's preparedness program.

In our aircraft, ordnance and armament plants gas plays its indispensable role in the heat treatment of steel to toughen America's resistence to aggression. There are indeed few large industries in which gas does not have some part to play.

The gas utilities are always ready to serve all . . . from the nation itself even to its humblest citizen. Gas is the all-purpose fuel ready to meet all needs.

LONG ISLAND LIGHTING COMPANY

AND SUBSIDIARIES

QUEENS BOROUGH GAS & ELECTRIC CO. KINGS COUNTY LIGHTING CO.
LONG BEACH GAS COMPANY NASSAU & SUFFOLK LIGHTING CO.

New Gas Sales Department Builds Load and Goodwill in Florida

SINCE July, 1936 the Florida Power & Light Company has conducted continuous and aggressive sales programs to sell the advantages and cheapness of its gas service, both residential and commercial, in Miami. To further promote the use of gas and to render better customer coverage, a separate Gas Sales Department was organized in May, 1939. This new organization provides more complete customer coverage—one gas sales representative for each 1,250 residential gas customers and one representative for each 300 commercial gas customers.

(1) Servicing of Customers

By systematic call these representatives make a survey of all gas customers in the city, contacting each individual customer at least once a year. Results of each survey are recorded on an individual record sheet and show what fuels are used for the four jobs, cooking, refrigeration, water heating, and space heating, and the condition of the present equipment. The survey, in addition to discovering customers who are in need of new or additional gas equipment, also brings to attention in many cases the need for repairs or adjustments to burners which our service department can remedy free of charge thus enabling the customer to receive more satisfactory service from present equipment.

Magazine for Customers

A monthly magazine, *Today's Home*, is mailed free to all residential gas customers or prospective customers in the city. This magazine is devoted to bringing to readers the advantages and convenience of our gas service. It contains recipes and items of interest for the housewife.

To all commercial gas customers we mail each month one of the following publications, according to the type of business engaged in: Baking for Profit; Cooking for Profit; Beauty Saving. These publications contain pictures and descriptions of major gas installations together with comments and testimonials by the proprietors and users, in Miami.

A modern all gas kitchen has been installed in our main office for the benefit of our customers and for gas cooking demonstrations by our Home Economist. This display kitchen has also been of assistance in selling our gas service by gas dealer salesmen as well as our own residential representatives. Our Gas Home Service Department follows up all sales of gas equipment sold by local gas appliance dealers and the company to instruct the new gas user in the operation of the new equipment.

Representative Aids Dealers

A full time gas dealer representative is provided by the company to render complete advisory service to all gas appliance dealers and plumbers relative to up to date merchandising methods, appliance financing, floor and window displays, newspaper and radio advertising, and sales training. We have assisted two local dealers to install all gas kitchens in their stores and our Home Service Department cooperates by conducting a cooking school in each kitchen once a week.

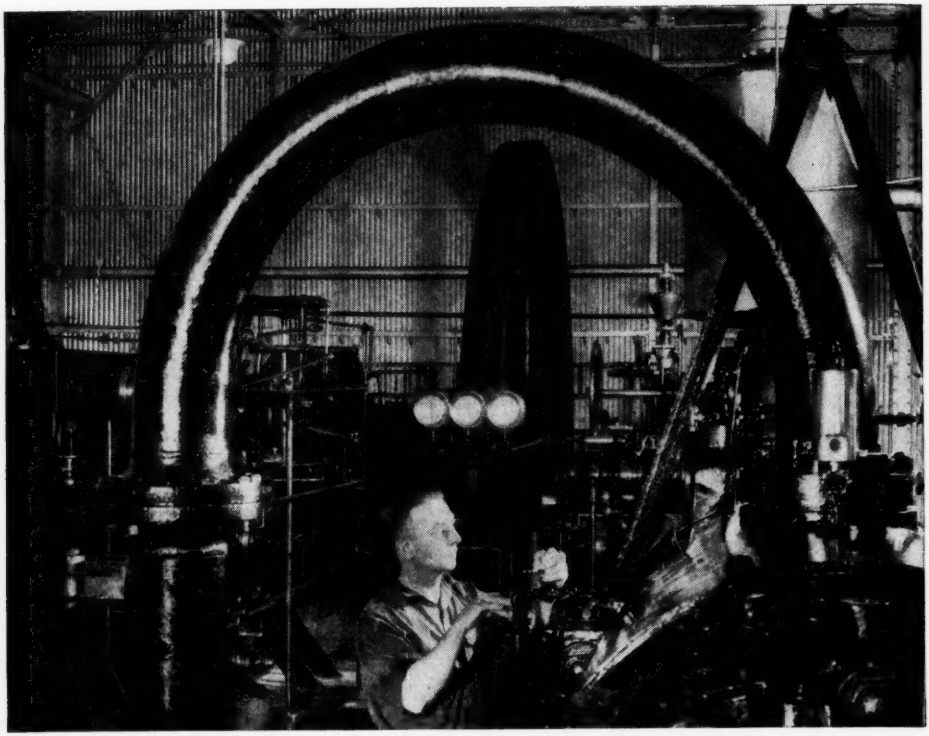
(2) Improved Public Relations

Due to better coverage of customers on our gas mains and the courtesy service which we are able to render as a result of our systematic survey system, our voluntary offering of free adjustments, etc., gas customer relations have improved tremendously. Also our spirit of coöperation with appliance dealers has improved our public relations not only with the dealers themselves but also with the customers who, when we recommend that they buy from their preferred dealers rather than from us, are impressed with the fact that we are interested in seeing them receive better gas service rather than in high-pressuring them to buy our own merchandise. One of the best ways to induce a customer to install gas is to suggest that he buy his equipment from a source of his own choosing.

(3) Per Capita Increase in Use of Appliances

During the twelve months ended June, 1940, use of gas per customer, both residential and commercial, has shown material increase over the twelve-month period ended June, 1939.

Since June, 1939 we have added 350 new gas customers to our gas mains.



One of the fifteen compressing stations assuring Equitable Gas Company customers an abundant supply of natural gas at proper pressures.

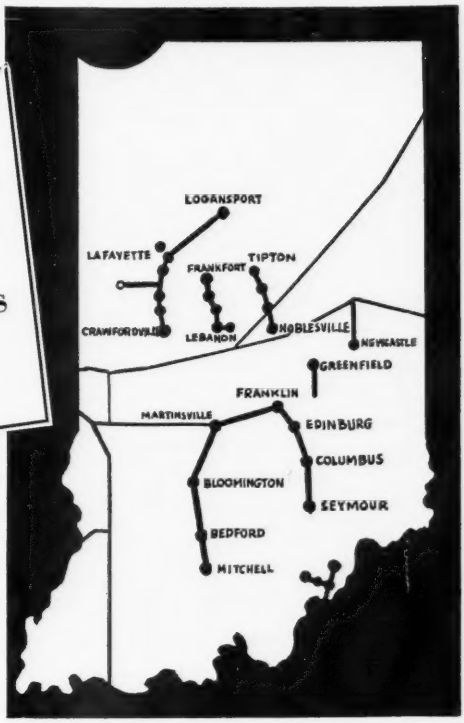
In Pittsburgh . . . the Trend is to NATURAL GAS

Ever since 1884, when Inventor George Westinghouse accidentally struck gas while drilling a well for water on the grounds of his Pittsburgh estate, Pittsburghers have enjoyed the use of natural gas. Once harnessed, it became the sensation of the day—and one of the elements greatly responsible in earning Pittsburgh the title, "The Workshop of the World."

Today, thousands of Pittsburghers recognize the superiority of natural gas as a heating fuel . . . and are extremely fortunate in being located in an area where there is an abundant supply. More homes are turning each day to gas heat, while churches, apartment buildings, hospitals, large garages, office buildings, etc., are among the other boosters for gas heat in the Pittsburgh District. Gas for industrial heating has long been utilized by manufacturers throughout their plants, as the ideal fuel for every industrial use.

EQUITABLE GAS COMPANY

CHEAP NATURAL GAS is creating new industrial opportunities in INDIANA



With the discovery of natural gas in Jay County in 1886, began one of the greatest eras of commercial prosperity that eastern Indiana has ever known. But by 1907, the local supply, which had been shamefully wasted, began to fail causing much of this territory to return to its basic agricultural economy.

Today, after a lapse of more than a quarter of a century, this great natural resource is again becoming available to Indiana homes and industries over an increasingly wider area. The distributors of the fuel, however, are no longer dependent upon uncertain local wells, but purchase their supply from pipe line companies which tap the almost unlimited resources of the great southwestern gas fields.

Since early 1937 the Public Service Company of Indiana has taken a leading part in this movement to bring back to the Hoosier state the advantages of cheap and efficient natural gas. Among its many large gas customers are the great Chrysler plant in New Castle and the Aluminum Corporation of America at Lafayette. Of the 34 communities supplied with gas by this company some 22 are now served by transmission lines with either mixed or straight natural gas, and within the next 60 days customers in eight additional towns will be using this superior fuel.

As a result of the changeover to natural gas the communities we serve are becoming more inviting to new industries . . . our present customers are saving many dollars each year on their gas bills—and we are enjoying a substantial increase in domestic and industrial gas load.

R. A. Gallagher

PRESIDENT

PUBLIC SERVICE COMPANY OF INDIANA

INDIANAPOLIS, INDIANA

ATLANTA

has one more advantage in the availability of

NATURAL GAS

"Atlanta is generally recognized as the principal headquarters city of the Southeastern Region." (U. S. Department of Commerce, Commercial Survey of the Southeast.)

To its many other advantages as a great cultural, commercial and industrial center, Atlanta has the added advantage of the availability of Natural Gas.

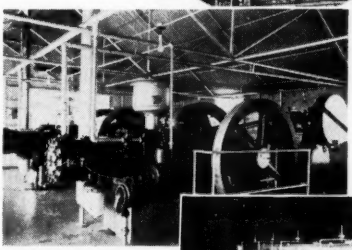
More and more, because of the availability of this efficient, highly flexible fuel industries are being attracted to Atlanta—more industries mean more payrolls, more opportunities, less unemployment, better earning possibilities—a better city in which to live.

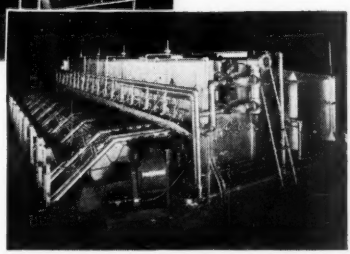
ATLANTA GAS LIGHT COMPANY invites you to visit Atlanta, and would consider it a privilege to share in showing you something of the "Southern hospitality" that makes visitors to Atlanta want to come back again.

H. Carl Wolf,
President.

ATLANTA GAS LIGHT COMPANY

A SHORT, SHORT STORY . . . of OKLAHOMA NATURAL GAS CO.





History—In 1903, four years before Oklahoma became a state, a group of Pennsylvania oil men laid a small gas line from the nearby Hogshooter field to "Tulsey Town." From this modest beginning has grown the Oklahoma Natural Gas Company which now serves a large portion of Oklahoma.

System—To assure an adequate and dependable supply of gas under *all* conditions—a prime requisite of modern industry—over 4,000 miles of gathering and distributing lines have been laid, connecting over 700 wells in 40 widely scattered fields. Many improvements have been made to reduce line losses to a minimum; and the latest equipment has been installed to equalize pressure under varying conditions, as well as to stabilize B.T.U. content and eliminate dust.

Reserves—A continuous fuel supply is important to home and industry alike. In 1936—after an exhaustive study by Ralph E. Davis, Inc., of New York—it was found that reserves sufficient for 7½ years were connected to the system. With future needs in mind, an aggressive search was begun for new sources of supply; and in 1939, another survey made by the same firm revealed that 407,550,000,000 cubic feet of gas reserves were connected to the company's lines, and within 25 miles of these lines were an estimated 310,000,000,000 cubic feet of additional reserves. The last paragraph from this report shows the progress that has been made in three years:

"It is our judgment, based on all these considerations, that the company will be able to obtain its gas requirements at a reasonable cost for more than 20 years."

Applications—It is second nature for Oklahomans to use gas. The average annual use per customer of nearly 100,000 cubic feet shows that nearly 100 per cent of our customers use gas for house heating as well as for all normal domestic appliances. In Oklahoma industry, gas is being used extensively for heat treating, forging, etc., as well as for prime movers and generation of cheap power. Oil men, too, are good customers, having found that purchased gas is cheaper and cleaner to use than are other types of fuel. Water flooding of old fields and repressuring projects "by gas" add new uses to an ever-growing list.

Financial—Through elimination of many fixed charges, and consolidation and refinancing of outstanding obligations, the company has improved its financial position immeasurably. An article from the *Chicago Journal of Commerce* of August 19, 1939, says, "Just three years ago, the investor fraternity . . . wouldn't touch its securities . . . Thursday, 17,000,000 of the company's . . . first mortgage bonds, plus 50,000 shares of its . . . (prior) preferred stock were snapped up immediately, chiefly by large institutional buyers. There weren't enough securities . . . to fill orders, and both promptly went to a premium in the Street market . . . That's what the American business man can do when he's sure he's right."

Adverse Economic Factors Overcome by Complete Change in Manufacturing Methods

PORTLAND Gas Light Company of Portland, Maine, now completing a record of ninety years of public service to a group of communities consisting of the City of Portland and surrounding cities and towns, with a present population of approximately 100,000, has become within the past two years a striking example of the flexibility in plant investment and operation inherent in the manufactured gas industry. While the Company is recognized to be one of the smaller units in the industry, its experience is believed to be possible of duplication in any size plant.

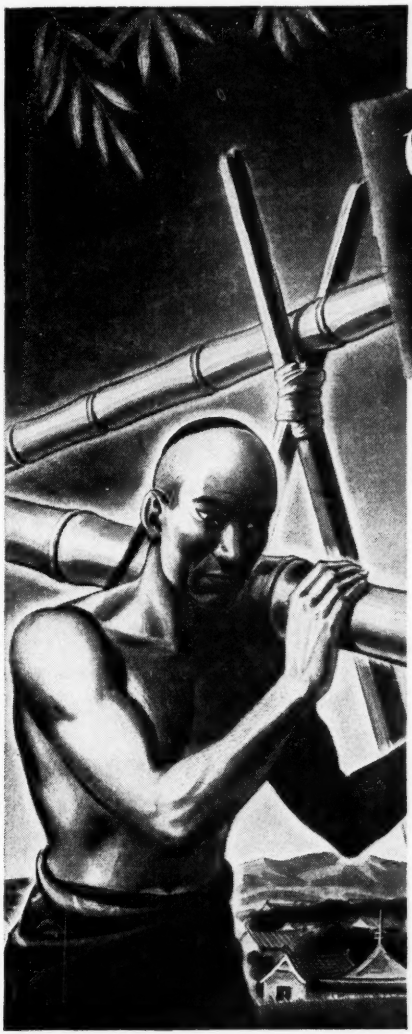
From 1850 to 1938, inclusive, gas had been manufactured by the distillation of semi-bituminous coal with various types of retorts. In 1937, due to the radically upward trend of prices of raw materials, unsettled labor conditions and the declining market for its residuals, coupled with constantly increasing taxation and other elements incident to the economic depression, the Company determined to correct its declining net revenue situation by completely changing its plant and operations. Two modern carburetted water gas machines of a design and so equipped with auxiliaries, such as to be capable of efficiently utilizing any grade of fuel oil to produce gas at a minimum cost, were chosen as the means to the desired end. This equipment enlarged the capacity of the plant considerably over the maximum demand, and gives sufficient standby equipment for any emergency. Wherever feasible automatically controlled equipment, including automatic coke unloading facilities from railroad car to storage hopper, was selected to keep the efficiency up and the attendance at a minimum.

Since going into full time operation the latter part of January 1939, gas has been produced from oven coke and the lowest grade of Bunker oil. This same oil is used to fire the boiler. Practically daily deliveries of oil and only minimum storage of coke avoid heavy investment in inventories and reduce taxation materially. Oil storage at supplier's cost is close at hand, coke storage available and flexible. Approximately 4,000 gallons of dry tar are produced daily and taken by a buyer located a few hundred feet from the plant in 10,000 gallon lots. No large tar storage nor reheating is required.

The change-over was accomplished with a minimum of adjustments on consumers' premises, required on account of the slightly heavier gravity of the new gas, and with a temporary increase in consumers' complaints of less than one per cent.

The striking feature of this change-over, illustrating, both to the operating management and to the investor in gas company securities, the stability and flexibility of the industry, is that, with a total investment in plant and distribution system of approximately $3,400,000, the complete substitution of a new kind of heart to the system—a complete change in the method of manufacture—required a cost outlay of only approximately $225,000. This was the investment required to accomplish a reduction of 25 per cent in the cost of manufacture and to increase net income 90 per cent over the average for the years 1936 to 1938 inclusive, a good example of the possibilities of business rehabilitation inherent in the gas industry in the face of adverse economic factors.

PORTLAND GAS LIGHT CO.



PRIMITIVE PIPE LINES OF OLD PEKIN

Age-old records show that Pekin (now Peiping) utilized Natural Gas more than 500 years before our country was discovered. Escaping from the ground nearby, it was transported through fragile bamboo pipes for evaporating salt water to produce salt and, as well, for illumination in that ancient seat of Chinese culture.

It is a far cry from this primitive practice to the modern method of distributing Natural Gas—an engineering feat never achieved by the China of antiquity, although she deserves credit for pointing the way.

As a result of her discovery, Natural Gas is now delivered to mains through giant metal pipe lines, overland and underground, many drawing their supply from distant fields.

Used abundantly and economically for numberless residential, commercial and industrial purposes, Natural Gas has attained rightful recognition as one of the greatest contributions of convenience to our present day civilization.

COLUMBIA SYSTEM

COLUMBIA GAS & ELECTRIC
CORPORATION

Visit **FORWARD MARCH OF AMERICA** *ELECTRIC UTILITIES EXHIBIT at the* **NEW YORK WORLD'S FAIR**

A BIGGER JOB FOR GAS

DURING the first six months of this year our gas sales increased more than 9% over the same period of last year. A growing population, an increasing number of diversified industries, and the greater demand for gas heat account for this increase. We believe in the future of the gas business for these and many other reasons.

In order to be prepared for whatever emergency demands may be made upon our gas system, manufacturing and distributing facilities are constantly being expanded and remodeled. The Central Gas Works at New Brunswick has been doubled in capacity to meet the needs in that area. The West End Works at Jersey City is being remodeled under an expansion program which will give it an ultimate capacity of 25,000,000 cubic feet per day.

To meet increasing requirements for appliance and house heating service, more than $300,000 is being spent for a new service building and garage which will serve the Montclair and Orange districts. Similar buildings have already been constructed in the Paterson and the North Hudson districts.

The industrial and domestic need for gas is growing steadily. We are ready to meet it.

PUBLIC SERVICE ELECTRIC AND GAS COMPANY

A-7950

GAS HOSPITALITY HOUSE

Sponsored by the

Public Service Company of Colorado

TO reword a familiar saying, "One hundred thousand Denver women want to be right" in matters of cooking and home operation. Evidence of this is the steady increase in attendance at Gas Hospitality House—demonstration auditorium for gas equipment, conducted by the Public Service Company of Colorado.

This attractive and welcoming unit houses an auditorium seating 105. White leather furnishings and a white piano are distinctive. Air conditioning provides year-'round comfort for guests; controlled lighting spotlights particular appliances at the will of the operator; facilities are provided for sound motion pictures; and built-in display rooms illustrate modern installations of air conditioning, bathroom equipment, etc. The stage, of course, is a complete and strictly modern gas-equipped kitchen.

The afternoon programs, conducted Monday through Friday, open on two days a week with a 15-minute radio program from the stage of the model kitchen, featuring entertainment, tested recipes, and the promotion of modern methods of cooking, heating and water heating.

An hour's demonstration is given of food preparation, using recipes appropriate to the season. Recipes are offered in mimeographed form to those in attendance, as well as over the radio.

Since the opening of Gas Hospitality House in September, 1936, over 100,000 women have visited it, and each year's total shows a substantial increase over the preceding year's. Countless thousands of women make the radio program a "must" on their listening schedule, judging by the mail and phone requests for copies of the broadcast recipes.

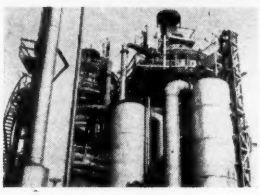
Besides the regular scheduled demonstrations, special ones are held for vocational teachers, salesmen, employes, and other interested groups.

The operation of Gas Hospitality House is based on a definite policy, formulated by Guy W. Faller, President of the company, and G. B. Buck, Vice President and Commercial Manager, which emphasizes coöperation with dealers and merchants of the city and state. The gas ranges, water heaters and other equipment used in the demonstrations are changed periodically, and are quite frequently of makes or models not handled by the company. Prices are not quoted to guests, and no effort is made to divert purchases to the company that might otherwise be made through a dealer. All commercials on the radio programs are phrased to suggest, "See your dealer, . . . or the Public Service Company of Colorado."

Vera Carter Ault, home economist of note in the Rocky Mountain region, is in charge of demonstrations, assisted by Mrs. Marian Johnson. Gas Hospitality House is operated under the direction of James T. Coatsworth.

(Left) The availability of basement space for recreational purposes, if the home has modern gas air-conditioning, is effectively demonstrated in Gas Hospitality House by an actual installation operating independently of the main building's heating plant. (Right) Capacity attendance is a regular thing at the afternoon programs of Gas Hospitality House.

The twice-a-week radio programs center around Vera Carter Ault, whose menus and tested recipes are used in many thousand Colorado homes.



Seattle Gas Company Makes History

Studying master chart control of Seattle Gas Company plant operation, is James F. Pollard, president of the Seattle Company. (below) Oil-gas generators, major units in the company's new oil-gas manufacturing plant.

IN 1940 the Seattle Gas Company is making utility history:

—with its new plant, one of the few oil-gas manufacturing plants in the country.

—by its development of by-products for use in industry, defense and agriculture.

—by its consistent aggressive merchandising and public relations program in one of the stiffest competitive markets of the nation.

The Seattle Gas Company plant, under construction for more than three years, is now operating at full capacity with all units of the oil-gas plant completed. The Seattle company is now one of the few in the nation to manufacture gas from oil.

With regional and national attention focused on the creation of new materials for defense, industry and agriculture, the company's wide list of by-products, created in the new plant, takes on new significance. The by-products, converted from Dubbs' Residuum, are making important additions to company income and may later prove instrumental in reducing rates for the more than 45,000 commercial and domestic gas users in Seattle.

In the face of one of the lowest electric rates anywhere in the country, the Seattle Gas Company has shown customer and appliance sales increases through a regular program of interpreting the advantages of gas for cooking, water heating, house heating and refrigeration. Linking its story with the national advertising campaign of the industry, the Seattle Gas Company has consistently conducted institutional campaigns—selling the superior qualities of gas service—side by side with its merchandising campaigns.

Only one of the by-products now being recovered at the Seattle plant is sold for household purposes. All others are sold directly for industry, defense and agricultural purposes. Among the by-products now being recovered are approximately 22,000 tons of lampblack, 1,500,000 gallons of tar; 300 tons of sulphur, 800,000 gallons of light oils, and 100 tons of naphthalene, yearly.

The lampblack, almost pure carbon which burns without ash, is presently being used as fuel in the water gas plant and, pressed into briquet form, sold for domestic heating in the Seattle and Puget Sound area. The lampblack may also be used to make carbon electrodes for electric furnaces. At present, the tar is used chiefly for fuel in the plant, although some of it is converted into roofing material. Sulphur, which is recovered in the form of colloidal sulphur, is used for sprays and insecticides. Naphthalene recovered from the tar, which is approximately 20% naphthalene, is used primarily for agricultural purposes.

Most important, perhaps, from a national defense viewpoint, is the recovery of light oils which are broken down into light ends, benzol and heavy ends. The light ends contain carbon disulphide, the heavy ends contain naphthas which are used in the rubber reclaiming industry.

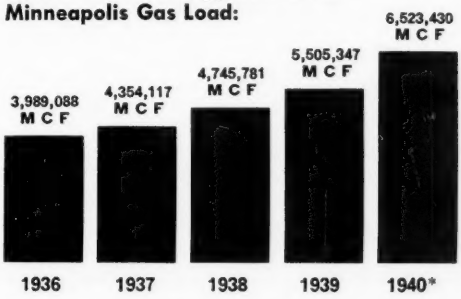
The Seattle Gas Company is now preparing to make every grade of benzol, including motor fuel benzol, toluol and xylol. Toluol, used in wartime for manufacturing explosives, can be produced in quantities up to 150,000 gallons a year.

Rebuilt at a cost of approximately three quarters of a million dollars, the Seattle Gas Company plant is now one of the country's most modern. In its rebuilding the giant coke ovens were torn down and two oil gas generators were erected. Other units were constructed at the same time for the reclamation of by-products. As Gas Company chemists discover new ways to turn low-value by-products into commercially profitable items, other units will be built.

Partially as a result of the new gas making process and partially as a result of the increasing use of gas in Seattle, the cost to domestic users has dropped more than one-third in the past ten years. In 1930, the average cost of gas for household use was $1.34 per thousand cubic feet; in 1933 it was $1.18; in 1936, it was $1.09; and in 1939, it was 98c per thousand cubic feet.

The Load Goes Up and the Rate Comes Down!

Here's what has happened to the Minneapolis Gas Load:

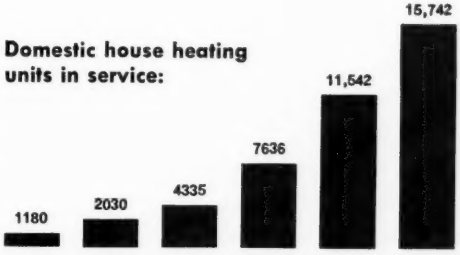


And here's what has happened to the average rate:

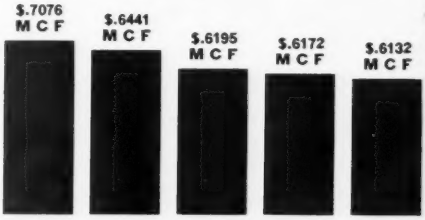
*Figures are for the 12 month period ending December 31st and estimated for the balance of 1940. Minneapolis has 800 BTU gas, 8,000 degree days, approximately 140,000 meters and a population of about 500,000.

The Minneapolis Record on domestic heating with gas is an interesting example of service to a city, by a utility.

Domestic house heating units in service:



At the same time, the average house heating rate came down:



During the same period, there was a steadily climbing investment in improvements to property—from $216,000 in 1936 to $614,719 in 1939 and an estimated $750,000 in 1940.

MINNEAPOLIS GAS LIGHT COMPANY
Minneapolis, Minnesota

Greetings

to the

CONVENTION

of the

AMERICAN GAS ASSOCIATION

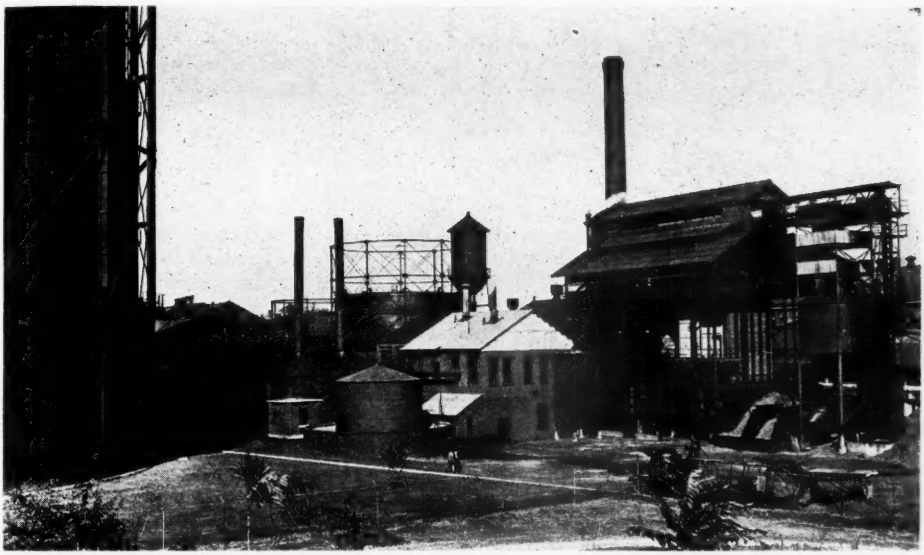
AT ATLANTIC CITY, N. J.

From the

PITTSFIELD COAL GAS COMPANY

PITTSFIELD, MASSACHUSETTS

¶ Founded in 1853 this Company has given 87 years of uninterrupted service to Pittsfield, Dalton, Lenox, Lee, Stockbridge and Lanesboro, Mass. One of the few independents left!



Modern coal gas plant at Roanoke, Va., as it appeared last year and which is now being enlarged

RECENT RAPID GROWTH AND DEVELOPMENT OF ROANOKE GAS COMPANY

THE Roanoke Gas Company was founded fifty-six years ago this year. The modern coal gas plant has a main holder capacity of 1,850,000 cu. ft. This plant supplies 525 Btu. gas for our 12,171 customers using gas for cooking, water heating, refrigeration, house heating and various commercial and industrial applications. The by-product of the plant is coke which is easily disposed of for use in domestic furnaces throughout the city.

Only a few years ago the plant facilities were considered adequate for our customers' needs for many years to come. However, during the past two years new customers have been added at the rate of three per day or a total of 2,111 for the period. We are now in the process of completely modernizing and enlarging the coal gas plant to take care of increased customer consumption. The following have attributed largely to this growth:

The reconnecting of dead services, replacing of competitive fuels and minor main extensions within our operating limits. It is true we have enjoyed a normal growth through the construction of new homes but it has been our experience that most people moving into new homes are already gas users even though they purchase new appliances.

A special effort is put forth at all times to convert present customers to two- and three-way users; thereby, eliminating competition and increasing the use of gas per customer without added capital investment.

As a further result of our special campaigns to increase gas sales, the following is a unit tabulation of load building appliances installed during the past twenty-four months:

Ranges	2,643
Refrigerators	945
Automatic Water Heaters	859
Miscellaneous	442
TOTAL	4,889

ROANOKE GAS COMPANY

Roanoke, Virginia

Rendering a Public Service

ON the East bank of the Mississippi River at the head of deep-sea navigation is Baton Rouge, capitol city of Louisiana, and the home of the State University. Deep in the middle South this city is one of the fastest growing of the smaller cities of the United States. Just completed is a bridge spanning the River and putting Baton Rouge on the shortest southern overland route from the Atlantic to the Pacific.

State Capitol at Baton Rouge

Gas for fuel has been provided in this community by the Gulf States Utilities Company and its predecessors for almost fifty years, the supply being changed from artificial to natural gas in 1927. Although one of the largest oil refineries in the United States was located in Baton Rouge in 1909, it was not until about five years ago that the construction of other industries in the City started the impetus that has placed Baton Rouge in the forefront of cities assuming national importance. In addition to oil refining, Baton Rouge is recognized as one of the leading chemical manufacturing points in the country, with a large unit of Solvay Process Company located here, a tetra-ethyl lead plant of Ethyl Gasoline Corporation, and the newest development, a Buna Artificial Rubber Plant, construction of which has just been undertaken. The town naturally has expanded very rapidly. Commercial enterprises have grown, new homes had to be built, new sub-divisions have sprung up over-night.

Gas facilities have had to keep pace with these new demands and during the last five years the number of customers served by the Company has doubled, approximately 12,000 meters now being in service. From a small business operated almost on a personal basis, the Company has had to provide large amounts of capital for new mains, regulator stations, necessary construction and maintenance crews and equipment. All during this expansion period the "personal basis" plan of operation has continued to be uppermost in the thoughts of the gas department and the same interest in the customer's welfare prevails today as when the Company was much smaller. That such operation has maintained satisfactory customer acceptance is attested by the fact that at the present time 83% of all the domestic customers of the Company are using automatic gas storage water heaters.

Safety, too, has played an important part in the Company's growth. During the last 1,402 days, almost four years, the gas department has operated without a single lost-time accident, and this in the face of major plant expansion.

Such records as these do not just happen. They are the result of careful planning based on a sense of fair play and of consideration for the rights of others. No business can long prosper that has unhappy employes or dissatisfied customers; no company rendering a public service that had good employee and good public relations, ever really failed. Both are essential, both are possible of attainment.

We are proud to be a part of the fine people who are associated with the gas industry.

DEPENDABLE GULF STATES UTILITIES CO. PUBLIC SERVICE

THROUGH conservative management, coupled with the aggressive promotion of merchandise sales, Jersey Central Power and Light Company's gas business has forged steadily ahead over the past several years. Current gas sales are running about 8 percent ahead of last year for the first eight months.

The sales of major gas appliances have also shown consistent gains, sales for the first eight months of this year totaling $176,494.77 compared with $157,853.50 for the same period last year.

During 1940 Jersey Central will invest more than $400,000 in the expansion of plant, transmission, and distribution facilities and new buildings.

Chief among these developments is our Dover, N. J. plant where additional equipment has been placed in the boiler plant and a new reverse flow water gas machine installed to meet increased demands by house heating and cooking customers.

With an average of 52,511 gas customers in 124 communities, and aggressive plans for the promotion of gas appliance use, Jersey Central looks forward to a most encouraging year in its gas business.

JERSEY POWER & LIGHT CENTRAL

Jersey Central Power & Light Co.

SERVING 124 COMMUNITIES IN NEW JERSEY WITH GAS

Rate Reduction and Dealer Coöperation Result in Tripled Gas Sales

IN July, 1931, the El Paso Natural Gas Company completed its line from southeastern New Mexico to Arizona and made it possible for our company to bring natural gas to its customers of Douglas and Bisbee. Natural gas was then a product entirely new to Arizona and consequently, in addition to the problems incident to conversion from artificial to natural gas, we were faced with the task of building up customer acceptance to the advantages of this superior type of fuel.

Little progress was made in building our gas load up to 1935 as our rates were not low enough to induce customers to use this fuel for heating. During the fall of 1935 we began an intensive load-building campaign.

Our first step was a drastic rate reduction. At that time our residential rate was:

$1.00 for first 300 cu. ft. used per month per meter.

$1.60 per M cu. ft. for next 2700 cu. ft. used per month per meter.

$1.20 per M cu. ft. for next 3000 cu. ft. used per month per meter.

$.75 per M cu. ft. for next 4000 cu. ft. used per month per meter.

$.65 per M cu. ft. for excess of above stated amounts used per month per meter.

Minimum Charge: $1.00 per month per meter which $1.00 entitled consumer to use 300 cu. ft. during such month.

In order to stimulate a more complete use of our service we offered the following optional residential rate:

$2.00 for the first 200 cu. ft. used per month per consumer.

$.65 per M cu. ft. for next 4800 cu. ft. used per month per consumer.

$.60 per M cu. ft. for excess of above stated amounts used per month per consumer.

Minimum Charge: $2.00 per month per consumer which $2.00 entitled consumer to use 200 cu. ft. during such month.

Although these rates were of necessity higher than natural gas rates in other parts of the United States because of our distance from the gas fields, they could compete successfully with coal selling in the Douglas-Bisbee district at $13.00 per ton and oil at 9c per gallon.

Since our company does not merchandise gas equipment, our only approach to this problem was through our dealers. We instituted a very complete program of dealer coöperation under which we advertised extensively both gas and gas equipment, held frequent cooking schools and appliance displays, gave dealer advertising allowances based on merchandise sales and paid employee commissions on all prospects reported which later resulted in sales. Dinner meetings were held for the dealers and employees at which time gas engineers and factory representatives discussed with them the use of gas, installations and the servicing of equipment. A gas heating engineer was employed to assist the dealers in surveying heating requirements and closing equipment sales.

During the last five years under this program sales of gas equipment by dealers of Douglas and Bisbee have totaled $260,780, or an average of $66 per customer. During this same time, gas sales based on a 12 months period, increased from 95,410,600 cubic feet to 266,800,000 cubic feet.

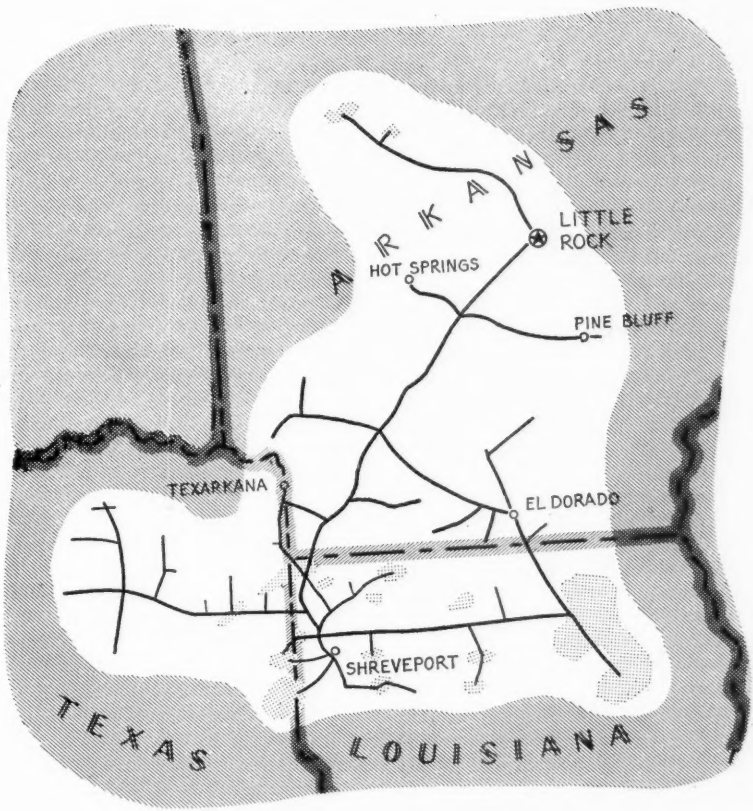
In June, 1939, we brought natural gas to our customers of the Globe and Miami divisions. Up to this time, we had served this district with manufactured gas. There we followed the same promotional activities used in Bisbee and Douglas. During the 12 month period following the introduction of natural gas in that district, the dealers sold gas equipment totaling $66,938.37, or approximately $42 per customer. Gas sales on a 12 month basis increased over this period from 20,514,700 cubic feet to 63,830,500 cubic feet.

The good-will created among our Globe customers through the introduction of natural gas to this division aided materially in securing gas and electric franchises by our company in this town during the last year.

ARIZONA EDISON COMPANY, INC.

Greetings from the

ARKANSAS LOUISIANA GAS COMPANY



Locations of various major gas fields in the Ark-La-Tex area, and main gas pipe lines of Arkansas Louisiana Gas Co., system which serves more than one hundred communities in Arkansas, North Louisiana and East Texas.

Wire and Wireless Communication

By Executive Order, on September 24th, President Roosevelt set up a Defense Communications Board and charged it with the task of mapping out plans for the best use and control of all communications facilities in the event of a national emergency. He specified, both in a statement summarizing his Executive Order and in the order itself, that the board will have no power to censor radio or other communications or to take over any facilities. It was also stated that

> The board does not propose to interfere with the normal operation of broadcasting or other means of communication any more than is necessary for the national protection.
>
> Through correlated planning, it will seek to gear the great and strategically valuable American communications system, in both the domestic and international fields, to meet any situation the national interest may require.

The members of the board, all of whom already are in the Federal service and engaged in communications work, are James L. Fly, chairman of the Federal Communications Commission; Major General Joseph O. Mauborgne, chief signal officer of the Army; Rear Admiral Leigh Noyes, director of naval communications; Breckinridge Long, Assistant Secretary of State in charge of the division of international communications; Herbert Gaston, Assistant Secretary of the Treasury, in charge of the Coast Guard.

Members of the new board have had the coöperation of the broadcasting industry in surveys made previously, the White House stated. Committees will be appointed from every branch of communications—broadcast and other radio services, cable, telegraph, and telephone—and also from labor groups.

"All plans involving the utilization of private facilities, or requiring industry coöperation, will be adopted only after consultation with such industry representatives, and the particular private companies whose properties may be involved," the statement added.

The specific assignment of the board will be to prepare plans which, in time of emergency, would allocate "such portions of governmental and nongovernmental radio, wire, and cable facilities as may be required to meet the needs of the armed forces, due consideration being given to the needs of other governmental agencies, of industry, and of other civilian activities." Control measures and agencies exercising this control would be set forth in the plan.

* * * *

Over a third of a billion dollars will be spent by the American Telephone and Telegraph system on additions and betterments to its plants in the United States during the year 1940. Recent disclosures indicate, that the company is planning an even greater program for expansion during the year 1941, one which may involve nearly a half-billion dollars of additional expenditures. While the actual cash outlay will be offset to some extent by funds derived from salvage of retired or replaced plant facilities, never-

theless the Bell system will soon need more new capital than at any time since the 1920's.

Writing in *The Journal of Commerce,* Leonard Howard analyzed the impressive gains and future plans of the Bell system. He pointed out that net additions to the system's plant last year amounted to $101,432,000. It is emphasized in official quarters that the engineering and construction improvements slated for this year and next reflect principally the growth of the business and the new technical developments in equipment, rather than any sudden revision in plans because of a national emergency.

Certain steps have recently been ordered to increase the assurance of communication between major centers of the country at all times, but this phase of the budget and the extraordinary line extensions that will be necessary for Army cantonments and the like can be handled easily, officials assert. The long lines division has a total budget of $21,000,000 for 1940, compared with $12,000,000 expended last year.

BECAUSE of the tremendous resources of the system and the comparatively low ebb of capital additions during the past decade, there has been little new money sought in the investment market since 1930. However, three factors in combination are tending to make new financing within the system not only necessary but a matter for early consideration and action. Informed guesses as to the probable amount of new money to be sought range from at least $50,000,000 to over $100,000,000.

Primary reason for new financing is that cash and temporary cash investments of the system as of December 31, 1939, were down to around $149,700,000 at the end of 1935, it was said. The latest report of the parent company, as of June 30, 1940, showed cash items amounting to less than $17,700,000, as against $25,942,353 a year earlier, and working capital had been reduced to $55,587,235 from $73,535,364 on June 30, 1939.

At the end of 1930, the system had almost $420,000,000 in cash or equivalent, most of which was held by the parent, which in that year had sold $258,000,000 in additional stock to stockholders. Secondly, launching a new expansion and improvement program which is likely to run over a billion dollars by 1942 coincides with lowest interest rates in the company's history. The investment merit of system obligations now outstanding is firmly established, and it is believed that $100,000,000 could be obtained at an interest charge of only $3,000,000 annually. Thirdly, the desirability of raising new capital in the near future rests not alone on the ample supply of investment funds and the demonstrated capacity of the market to absorb high-grade issues.

Officials were said to be well satisfied with the gains in telephone installations this year and anticipate that the improvement will continue at a strong pace as the defense program is reflected in increasing business activity. Approximately 17,500,000 telephones, it was estimated, will be in use throughout the system by the end of 1940, an increase of somewhat less than 1,000,000 compared with the year before and a new high record.

* * * *

THE International Telephone & Telegraph Corporation had a consolidated net loss of $126,977 in the first six months of this year, Sosthenes Behn, president, reported last month in his semiannual statement to shareholders. This result excluded operations of the corporation's European and Mexican subsidiaries and cable and radiotelegraph units and made no provision for losses which may be incurred by European subsidiaries as a result of the war. In the first six months of 1939, on a restated basis for comparisons, the corporation had a consolidated net income of $1,345,474.

Actual consolidated net income in the first half of 1939 as reported, including subsidiaries excluded from the 1940 first-half report, was $3,235,527.

* * * *

ANOTHER link to relieve transcontinental telephone congestion is in pros-

pect as a result of the Federal Communications Commission approving a joint application by the American Telephone and Telegraph Company and the Northwestern Bell Telephone Company for authority to install twin all-weather cables between Omaha, Nebraska, and Denver, Colorado.

This was said to be the largest single project of its kind which has yet been approved by the FCC. Its estimated cost is $7,635,000, of which amount $4,825,000 will be for outside plant equipment and $2,783,000 for carrier and associated equipment. The previous largest project of this nature to be speeded by the commission was the $2,815,200 Kansas City-Joplin, Missouri, cable approved May 14th last.

The dual Omaha-Denver cables will be plowed underground simultaneously, except in metropolitan districts where they will be placed in underground conduits. This will protect the system against storms. Open-wire connections in this area are subject to ice accumulation, which has caused 19 serious interruptions to the existing out-door Omaha-Denver line in the last twelve years. The method of "plowing in" two cables at once has been but recently developed by the Bell system.

The proposed cable route would pass through Cheyenne, Wyoming. It is understood that plans are being made for an extension from Cheyenne to Salt Lake City, Utah, and later to the Pacific coast to further reinforce the transcontinental system.

* * * *

TELEPHONE rates are too high and should be reduced instead of raised, Attorney General Smith Troy said last month in Washington's answer to the Pacific Telephone & Telegraph Company's superior court suit attacking three state public service orders denying it right to raise phone rates. The answer was filed in Thurston County Superior Court.

The case was scheduled to go to trial before Judge D. F. Wright on September 26th and was expected to last several weeks. Janitors were said to be busy carting into the courtroom the thousands of pages of testimony and exhibits upon which the department based its order.

Troy's answer charged the firm incorrectly figured its depreciation, failed to modernize its equipment so as to cut operating expenses, operated uneconomical dial and manual central stations in Seattle, Spokane, and Tacoma, and paid too much money to eastern holding companies. The state also criticized the pension system for company employees, holding it was less valuable to ordinary employees than the Federal social security program.

* * * *

TRAINS on 65 per cent of the railway mileage of the United States are now being given orders by telephone rather than by telegraph, the annual convention of the telegraph and telephone section of the Association of American Railroads was told at Ottawa recently.

The telephone is used to dispatch trains operating over 148,248 miles of track, while orders are transmitted by telegraph to trains operating over 85,107 miles, according to a report submitted to the final session of the convention. Prior to 1908, train orders were handled almost exclusively by telegraph, it was stated, but the telephone requires less time, less training, and less physical and mental strain.

The report said that because of the increased efficiency and greater ease in handling train operations with the telephone, "a dispatcher can handle a longer length of line than would be possible by telegraph and with little or no increased effort."

The telephone was especially valuable in cases of emergency, where any member of the train crew could telephone the dispatcher information more quickly than by telegraph. By using portable sets, section men or building gangs along the right-of-way were able to keep in constant touch with headquarters. The use of loudspeaker systems in terminals where there was a heavy train movement also saved valuable seconds and minutes.

Financial News and Comment

By OWEN ELY

The Gas Industry

THE gas industry in the United States has annual revenues of about $826,000,000, or roughly one-third the amount obtained by the private electric light and power industry. Out of each dollar of revenue in 1939, stockholders of natural gas companies obtained about 16 cents compared with only 6 cents for the manufactured gas companies and 24 cents for the average stockholder in the electric companies. The discrepancy in earning power between the two branches of the gas industry is not due to any larger plant investment—for both require about $5.40 invested in plant for each dollar of revenue produced—but rather to the lower present cost of producing the natural product.

However, the present relationship did not exist a few years ago. During the nine years ended 1939, the net income of the natural gas companies increased about 41 per cent while that of the manufactured gas companies declined about 72 per cent, as indicated in the following table (all figures are in millions of dollars):

	*Gross Rev.**		*Net Income**	
	Manu.	*Nat.*	*Manu.*	*Nat.*
1931	$405	$370	$82	$51
1932	382	345	68	44
1933	355	333	49	27
1934	357	350	35	31
1935	354	380	24	56
1936	359	417	25	69
1937	360	449	24	75
1938	362	423	21	62
1939	370	456	23	72

* Based on comparative estimated income accounts for the two sections of the industry, compiled by the American Gas Association.

As indicated in the chart on page 526, the principal difficulty of the manufactured gas industry has been its declining gross revenues, as compared with increased taxes and retirement charges. Owing to its rather poor earnings trend, it has not been able to scale down fixed charges in relation to revenues. On the other hand, the natural gas industry, with its rapid growth since 1933, has been able to hold down operating expenses and give the stockholder an increasing proportion of the revenue dollar. To some extent this has probably been due to the development of important natural gas fields in Texas and elsewhere and the building of new pipe lines.

WHILE the two branches of the gas industry are (in a few areas) mildly competing with each other, the entire industry competes with the electric industry and to some extent with the coal and oil industries. In its original field of house lighting, gas has been fighting a losing battle against electricity for some decades, although the situation has probably stabilized somewhat in recent years. It is in the industrial field that gas has been able to hold its own.

The gas industry continues to give the electric industry strenuous competition in the field of domestic appliances, as indicated by the American Gas Association's recent ad in *The Saturday Evening Post* and other national magazines headed "Life begins when you let gas do the four big jobs." In the field of house heating, where gas has tremendous possibilities for expansion, it has been handicapped by the difficulty of placing rates on a promotional basis so as to compete successfully with oil and coal. The ad referred to above states that "today the

new burners make it *really* economical." The relative progress of the gas industry in the domestic appliance field over the past decade, as compared with its competitors, is indicated in the accompanying table. (See below.)

OF 128,036 new homes constructed in 1939, about 63 per cent used natural gas; 33 per cent, manufactured; and 4 per cent, mixed gas. Of those obtaining natural gas, 94 per cent used it for water heating, and 88 per cent for house heating; while of those which had the higher-priced manufactured product, only 48 per cent used it for water heating; and only 17 per cent were persuaded to use it in house-heating units. There was little difference in the use for cooking (91 per cent of the new houses used gas in preference to other methods); for refrigeration only 10 per cent of the homes supplied with natural gas used it for this purpose, while the manufactured gas was used in 16 per cent of the homes thus supplied—possibly because they were largely in big cities.

In 1938 the cost to the average consumer of 1,000 cubic feet of gas was $1.02 for the manufactured product, compared with only 22 cents for natural gas. Manufactured gas used for domestic consumption cost about $1.31 compared with about 74 cents for natural gas. Due to differences in classification, it is impossible to compare the cost for industrial use accurately, but industrial use of natural gas for all purposes cost only about 9 cents, while manufactured gas probably cost industrial users in the neighborhood of 66 cents or more. However, the latter comparison is unfair because some natural gas was sold at such low figures as 5 cents for "field use" and 1 cent for production of carbon black—much of this gas being commercially nonusable and sold at a "marginal" rate.

The natural gas industry has ambitious plans under way for further expansion, through the building of extensive pipe lines. A line extending from Texas to New York is contemplated. But the speed with which this program can be carried out is somewhat dependent on the Federal Power Commission, which now largely rules the industry since most natural gas is transported over state lines.

The manufactured gas industry, on the other hand, may face new cost problems owing to rising bituminous coal prices, especially if our national defense program should produce inflationary trends. Its principal problem is to increase operating efficiency.

Both branches of the gas industry are free from the obstacle of government competition faced by the electric light and power industry; and the independent gas companies, for the most part, have relatively little to worry about from the integration problems involved in § 11 of the Utility Act. The natural gas companies may, however, have something to worry about in the regulation of wholesale rates by the FPC.

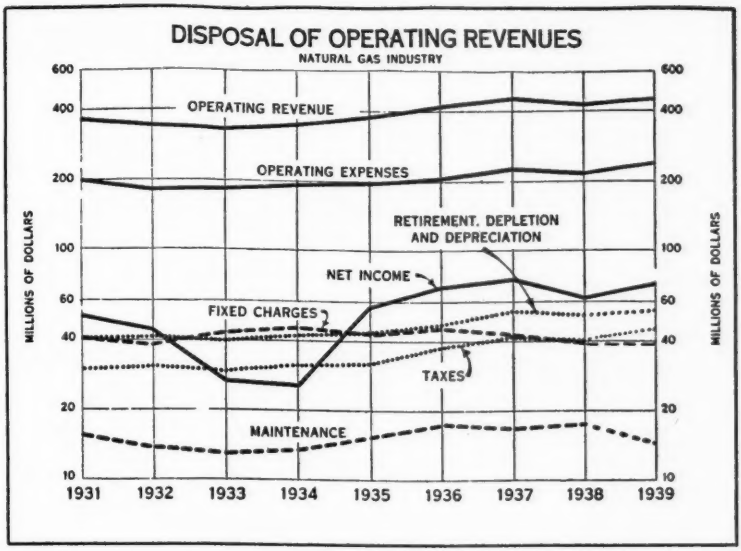
New Offerings Revive As SEC Reduces Waiting Period

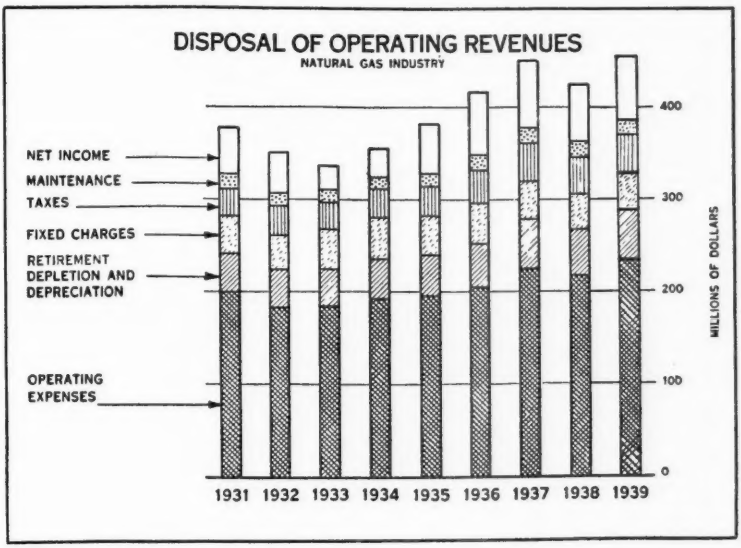
WHILE several important utility offerings initiated or registered some

DOMESTIC APPLIANCES IN USE (THOUSANDS OF UNITS)—1939 VERSUS 1930 *

	1930	*1939*	*Increase*
Ranges—gas	15,127	16,491	1,364
Ranges—electric	1,020	2,510	1,490
Ranges—oil	..	1,600	1,600
Refrigerators—gas	115	1,500	1,385
Refrigerators—electric	2,625	13,701	11,076
House Heating (central units)—gas	188	900	712
House Heating (central units)—oil	665†	1,905†	1,240
House Heating—coal stoker	..	470	470

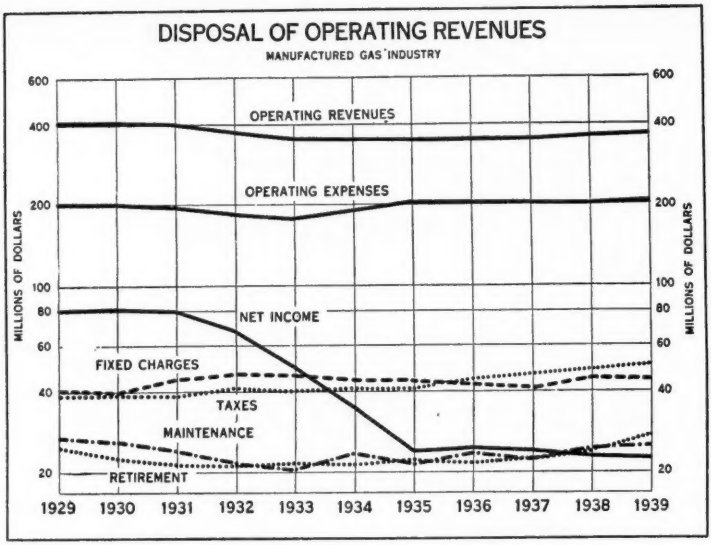
* Does not include water heaters, for which complete data are not available.
† Does not include "space heaters," which amounted to 1,900,000 in 1939 against none in 1930.

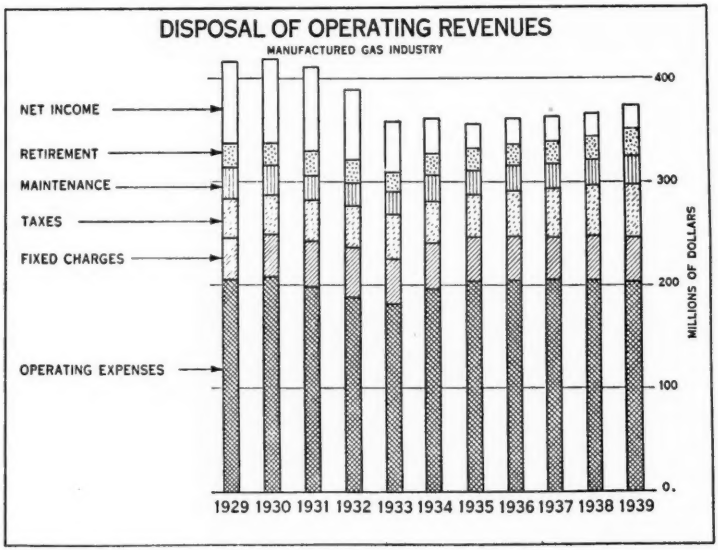




Courtesy, American Gas Association

weeks ago are still "on the fire" (the $75,000,000 proposed United Gas financing, the $29,000,000 Columbus & Southern Ohio Electric 3¼s, and the $16,500,000 San Antonio Public Service 3½s), other financing has come to the fore recently with the general recovery of confidence registered in the securities market. However, "re-refunding" operations, figured on a narrow margin of in-





Courtesy, American Gas Association

terest savings, will doubtless continue to await the outcome of pending tax legislation.

On September 11th Mackubin, Legg & Co. made the first utility offering since the shortening of the waiting period for new issues became effective. The issue, which consisted of $3,500,000 Houston Natural Gas first 4s due 1955, was filed September 3rd and released about a week

later. The bonds were reported well taken, going to a slight premium on the offering date, as were four industrial issues offered the same day. The company also tendered its $3.50 preferred stock on an even exchange basis to holders of a similar issue of the predecessor company.

Southern California Gas Company (Pacific Lighting subsidiary) on September 16th filed with the SEC $30,000,000 first 3¼s due 1970, principally to refund existing 4s and 4½s. Blyth & Company, assisted by 53 other firms, handled the underwriting on September 25th, a 9-day waiting period.

Southern California Edison is reported considering a $108,000,000 "re-refunding" operation for its two 3¾ per cent issues.

Central New York Power Corporation, an important unit of the Niagara Hudson Power system, has been authorized by the New York state commission to issue $5,000,000 3½s due 1965, to be sold privately at 101.

CENTRAL Maine Power Company on September 18th filed $18,100,000 3½s due 1970 and 20,000 shares of 5 per cent $50 preferred stock. The bonds are to be underwritten by a First Boston-Coffin & Burr syndicate, and the stock will be tendered to stockholders before being publicly offered.

San Diego Gas & Electric Company proposes to refund its outstanding 62,925 shares of $7 preferred stock with an issue of 314,625 shares of $1 stock (5 per cent, $20 par). The new stock will be offered to present stockholders on a 5-for-1 basis, conditionally on half the new stock's being accepted; unexchanged stock will be sold to an underwriting group headed by Blyth & Company and offered publicly at $23 a share, proceeds being used to redeem remaining old stock at $115 a share and accrued dividends. This is part of the general program in which the company is coöperating with Standard Gas and Electric, the parent holding company.

South Pittsburgh Water Company has filed 20,000 shares of preferred stock, largely for refunding purposes. Mellon Securities Corporation will head the underwriting group.

El Paso Electric Company (Engineers Public Service system) is reported considering the refunding of $8,000,000 first 5s of 1950. The new issue will probably carry a 3¾ per cent coupon. The financing is facilitated by the friendly settlement reached between the company and the Federal government over disposition of power from the Federal project, Elephant Butte dam.

Potomac Electric Power Company (North American system) has been authorized by the public utilities commission of the District of Columbia to issue $10,000,000 first 3½s, and the SEC has exempted the offering from the provisions of the Public Utility Holding Company Act.

The ICC has authorized Iowa Electric Light & Power Company to issue $12,600,000 first 3½s, and $1,980,000 general mortgage serial notes, for refunding purposes. The ICC took jurisdiction over the financing because the company operates railroad properties in interstate commerce.

Philadelphia Electric may require new funds to take care of a plant expansion program in connection with important national defense needs in its territory. While the company operates the second largest hydro plant in the East (Conowingo), greater stand-by steam-generating capacity is considered necessary to protect the service against interruptions. The company enjoys a high credit rating, its present 3½s selling to yield slightly less than 3 per cent.

New York Power & Light is understood to be studying the refunding of the $66,582,000 3¾ per cent bonds which it sold to a group of insurance companies nearly a year ago.

ERRATUM: In the FORTNIGHTLY of September 12th, page 355, the table headed "Estimated Liquidating Value of Principal UGI Investments" included 75,437 shares United Illuminating second preferred. The item should have read Niagara Hudson Power second preferred.

INTERIM EARNINGS STATEMENTS

Electric and Gas	*No. of Months Included*	*End of Period*	*Consolidated System Share Earnings (a) Last Period*	*Previous Period*	*Per Cent Increase*	*Per Cent Decrease*
American Gas & Electric	12	July 31	$2.95	$2.49	18%	..
American Power & Lt. (Pfd.)	12	July 31(b)	6.97	5.40	28	..
American Water Works	12	June 30(c)	1.45	.48	203	..
Boston Edison	12	June 30(c)	9.26	9.20	1	..
Cities Service P. & L. (Pfd.)	6	June 30(c)	19.83	18.74	6	..
Commonwealth Edison	12	June 30	2.35	2.39	..	2%
Commonwealth & Southern (Pfd.)	12	Aug. 31(b)	9.09	8.69	4	..
Consolidated Edison, N. Y.	12	June 30(c)	2.26	2.09	8	..
Cons. Gas of Baltimore	12	June 30(c)	5.02	4.40	14	..
Detroit Edison	12	Aug. 31	8.17	7.82	4	..
Electric Bond & Share (Pfd.)	12	June 30(c)	6.43	6.66	..	3
Elec. Power & Lt. (1st Pfd.)	12	May 31(bc)	8.50	5.72	48	..
Engineers Public Service (d)	12	July 31	1.73	1.36	26	..
Federal Light & Traction	12	June 30(c)	2.52	2.60	..	3
Inter. Hydro-Elec. (Pfd.)	12	June 30(c)	4.50	9.14	..	51
Long Island Lighting (Pfd.)	12	June 30(c)	5.15	6.05	..	15
Middle West Corp.	6	June 30	.54	.46	18	..
National Power & Light	12	July 31(b)	1.37	1.02	35	..
Niagara Hudson Power	12	June 30(c)	.51	.57	..	11
North American Co.	12	June 30(c)	2.11	1.81	16	..
Northern States Power (Cl. A)	12	June 30	3.52	D.02	..	..
Pacific Gas & Electric	12	June 30	2.78	2.75	1	..
Public Service Corp. of N. J.	12	Aug. 31(b)	2.66	2.86	..	7
Southern California Edison	12	June 30(c)	2.33	2.34	..	..
Standard Gas & Elec. (Pr. Pfd.)	12	June 30(c)	10.24	4.70	118	..
United Gas Improvement	12	June 30(c)	1.07	1.04	3	..
United Light & Power (Pfd.)	12	June 30	8.42	5.69	48	..
Gas Companies						
American Light & Traction	12	June 30	1.72	1.50	14	..
Brooklyn Union Gas	12	June 30(c)	2.28	3.07	..	26
Columbia Gas & Electric	12	June 30(c)	.63	.49	28	..
El Paso Natural Gas	12	June 30(b)	3.85	3.68	5	..
Lone Star Gas	12	June 30(c)	1.26	1.07	17	..
Oklahoma Natural Gas	12	July 31	3.59	2.13	68	..
Pacific Lighting	12	June 30	2.63	4.46	..	41
Peoples Gas Light & Coke	12	June 30(c)	4.84	2.72	77	..
United Gas Corp. (1st Pfd.)	12	May 31(b)	13.92	10.44	32	..
Telephone and Telegraph						
American Tel. & Tel.	12	May 31(c)	10.89	8.99	20	..
General Telephone	12	June 30(c)	2.69	..	..	..
Western Union Tel.	7	July 31(b)	1.51	D.46	..	..
Traction Companies						
Greyhound Corp.	12	June 30(c)	2.11	2.18	..	3
N. Y. City Omnibus	6	June 30(c)	2.23	2.46	..	9
Twin City Rapid Tran. (Pfd.)	6	June 30(c)	3.08	4.38	..	30
Systems outside United States						
Amer. & Foreign Pwr. (Pfd.)	12	Mar. 31(c)	5.47	6.05	..	10
Inter. Tel. & Tel. (e)	6	June 30(c)	D.02	.21	..	..

D—Deficit.
(a) On common stock, unless otherwise indicated following name of company.
(b) Data also available for month indicated.
(c) Data also available for quarter indicated.
(d) Excluding Puget Sound Power & Light Company.
(e) Excludes Spanish, German, and Polish properties.

What Others Think

Is Cheap Gas a Match for Hydro?

STIRRED by recent agitation, mostly of political origin, to have the Federal government engage in widespread hydroelectric development in the White river valley, officials of the Arkansas Power & Light Company are giving careful consideration to cheap natural gas as a competitive fuel for electric generation.

Arkansas is in position to furnish lower-cost electric power to industry than any other state, Vice President Frank M. Wilkes said at an Arkansas Power & Light Company stockholders' meeting in Little Rock on September 10th. Mr. Wilkes said immense quantities of "shut in" natural gas, brought in with the Magnolia oil field, can be bought at such a cheap price that electricity can be generated by steam plants far more economically than by hydroelectric facilities in multiple-purpose dams. He said the "shut in" gas cannot be used for domestic or commercial purposes because it is permeated with sulphur.

Mr. Wilkes and Chief Engineer C. S. Lynch explained to the stockholders what they termed "fallacious ideas entertained by some regarding hydroelectric power." They referred often to statements made at a hearing conducted by United States Army Engineers at Harrison, Arkansas, early in September to determine whether hydroelectric facilities should be installed at Norfolk dam in Baxter county. The dam will be built by the government and is presently designed without hydroelectric features.

PROPONENTS at the Harrison meeting, including Congressman Clyde T. Ellis of Bentonville and United States Senator John E. Miller of Searcy, saw a "little TVA" in the White river valley development and charged that Arkansas lacks sufficient cheap electricity to serve potential industries important to the national defense. Mr. Wilkes said:

> There is no company, not even TVA, with surplus capacity of as much as 30,000 kilowatts to be sold "across the table." But our company is in position to provide low-cost power for most industries immediately, and for a plant requiring as much as 30,000 kilowatts [such as an aluminum plant mentioned at the Harrison meeting] as quickly as such a factory could be constructed.

Declaring the company was negotiating with a "large plant that would require an immense quantity of low-cost power and raw materials obtainable in Arkansas," Mr. Wilkes said the AP&L can supply power far below the cost of hydroelectric power, "and is prepared to make the investment just as soon as a market for this immense quantity of power is procured."

Mr. Lynch, discussing "some of the misunderstandings of water-power projects, due to lack of technical knowledge and complete information," added:

> We feel we must adopt some sort of a campaign to acquaint the people with the true facts and not allow the careless use of figures, doubtless through ignorance of a complicated situation, to completely discredit the sincere efforts of our company to be of service in the territory.
>
> As we now operate we hear very few complaints against our rates except in mass meetings of the type held at Harrison. We believe the best indication that our power rates are within reason is the fact that there are practically no industrial plants operating in our territory which have their own power-generating facilities. . . . We do not believe that a company whose demands are great would buy power from us if they could install their own plant and make it cheaper.

Mr. Lynch said no hydroelectric plant in that section could be operated all of the time; that "even TVA was affected by drouths and that some months ago the Arkansas Power & Light Company oper-

ated steam plants to supply TVA with 17,400,000 kilowatt hours of energy during off-peak hours of the day in order that TVA might conserve its water supply. This proves hydroelectric plants in this part of the country cannot be operated continuously at capacity."

REFERRING to the Norfolk project, Mr. Lynch said statements made at Harrison "created the impression that this 48,000 kilowatts of capacity installed would supply 30,000 kilowatts to a plant running continuously and have 18,000 kilowatts to spare." He added:

> This is erroneous. The Arkansas Power & Light Company has a total maximum load of about 100,000 kilowatts. On this load, the company furnishes customers 500,000,000 kilowatt hours a year, which is at the rate of 5,000 kilowatt hours per kilowatt of load.
>
> It is estimated that the Norfolk dam will supply 108,000,000 kilowatt hours a year and there is to be installed in this plant 48,000 kilowatts of capacity. This means that it could supply 2,250 kilowatt hours per unit of installed capacity, whereas the demand upon that unit, on the basis of the Arkansas average, is 5,000 kilowatt hours.
>
> The obvious answer is that for carrying the average duty demanded on a plant in the state, this hydro plant would be good for approximately 24,000 kilowatts instead of 48,000. The installation of 24,000 would be only slightly less expensive than 48,000 since the big percentage of the cost is in the dam. . . . The result would be practically doubling of the cost of this energy per kilowatt hours.

The Forfeiture of Natural Gas Leases For Inactivity

THE common law of England, which goes back to the custom of Cornwall, provides that the suspension of mining operations for a year and a day is good grounds for the owner of the property to set aside the operator's interest in mineral lands. During the last few decades a similar theory has been adopted in American courts which forbids the lessee of minerals from tying up property indefinitely to the exclusion of the owner. An analysis of this question of forfeiture of leaseholds for failure to market natural gas appeared in the June issue of the *West Virginia Law Quarterly*. It was the joint contribution of Professor C. C. Williams, Jr., of West Virginia University of Law, and a member of the student board of editors, R. B. Goodwin.

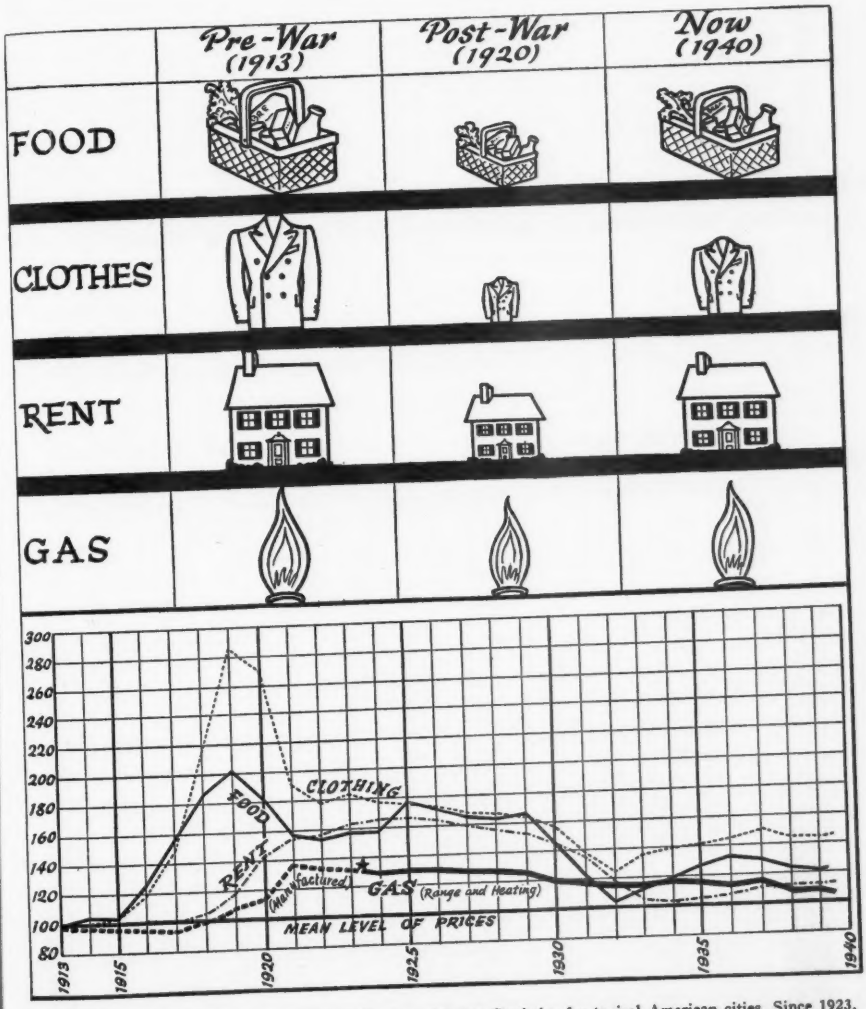
The origin of this rule of forfeiture lies in the obvious conflict of interest between the owner and operator of mineral lands. The owner wants to see some action so as to get his cash out of the transaction. The operator likes to take his time and await favorable market conditions—or, in other words, to indulge more or less in speculation. Naturally, the operator's obligation as to prompt development may become very exacting in the case of oil and natural gas exploitation, in view of the fleeting character of such mineral exploitation.

Messrs. Williams and Goodwin in their article make a detailed investigation of the case law surrounding forfeiture of natural gas leases under such circumstances. The courts have in the past failed to spell out precisely either the nature of the duty of the operator to market gas or the penalty to be imposed for failure to market diligently. Obviously, production must satisfy "the paying quantities test" in volume and pressure. Furthermore, the lessor must serve adequate notice on the lessee to market before commencing remedial proceedings.

THE mere suspension of production or marketing does not automatically entitle the lessor to relief. For example, temporary cessation of production for (1) deeper drilling, (2) short periods of business depression, (3) the creation of a reserve against seasonal demands, and (4) statutory regulation of large gas fields along "pro rata" lines—these may all serve as legal explanation for any

What Your Dollar Buys

In Terms of Domestic Gas Service Compared with Other Living Costs



★Data taken from price indices of the U. S. Bureau of Labor Statistics for typical American cities. Since 1923, the Bureau's index for gas (manufactured, mixed, and natural) has been based upon heat content. A monthly standard of 30.6 "therms"—normal for range and water-heating service—is adjusted to a 1913 index for this chart. Before 1923, the index (for manufactured gas only) was based upon price per hundred cubic feet.

failure of the lessee to dispose of natural gas. Larger operating companies in many states now include in their standard leases a provision which substitutes a gas well rental for a gas royalty where sales are unavoidably prevented.

The right of the lessor to claim forfeiture of the lease for unreasonable failure to market gas production depends on some equity rights arising from the lessee's misconduct. The authors excluded, with minor exceptions, the defense of "abandonment" which they call a "concept sadly overworked in oil and gas litigation." It is observed that there is nothing in common law of real property that permits one to divest himself of title simply by relinquishment or abandonment, as in the case of the chattel. Such a theory suggests defiance of the Statute of Frauds.

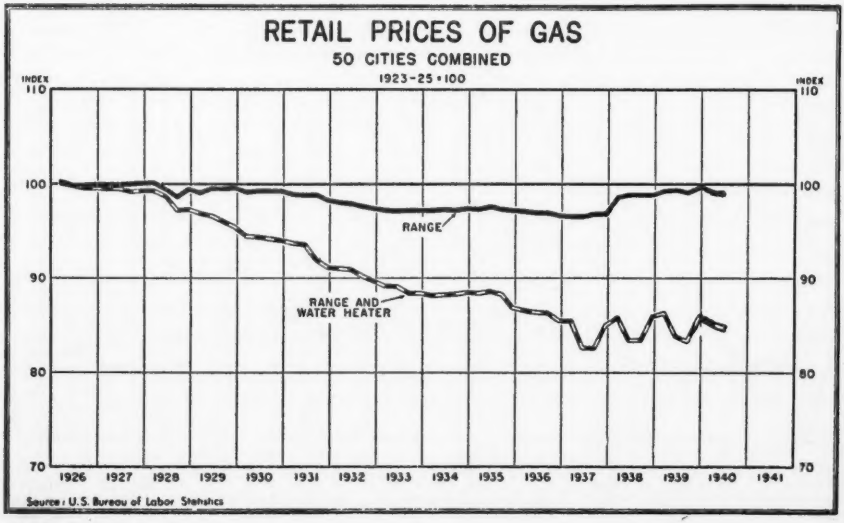
MESSRS. Williams and Goodwin summarize the following four points of proof that confront counsel in ordinary proceedings to cancel natural gas leases for failure to market production:

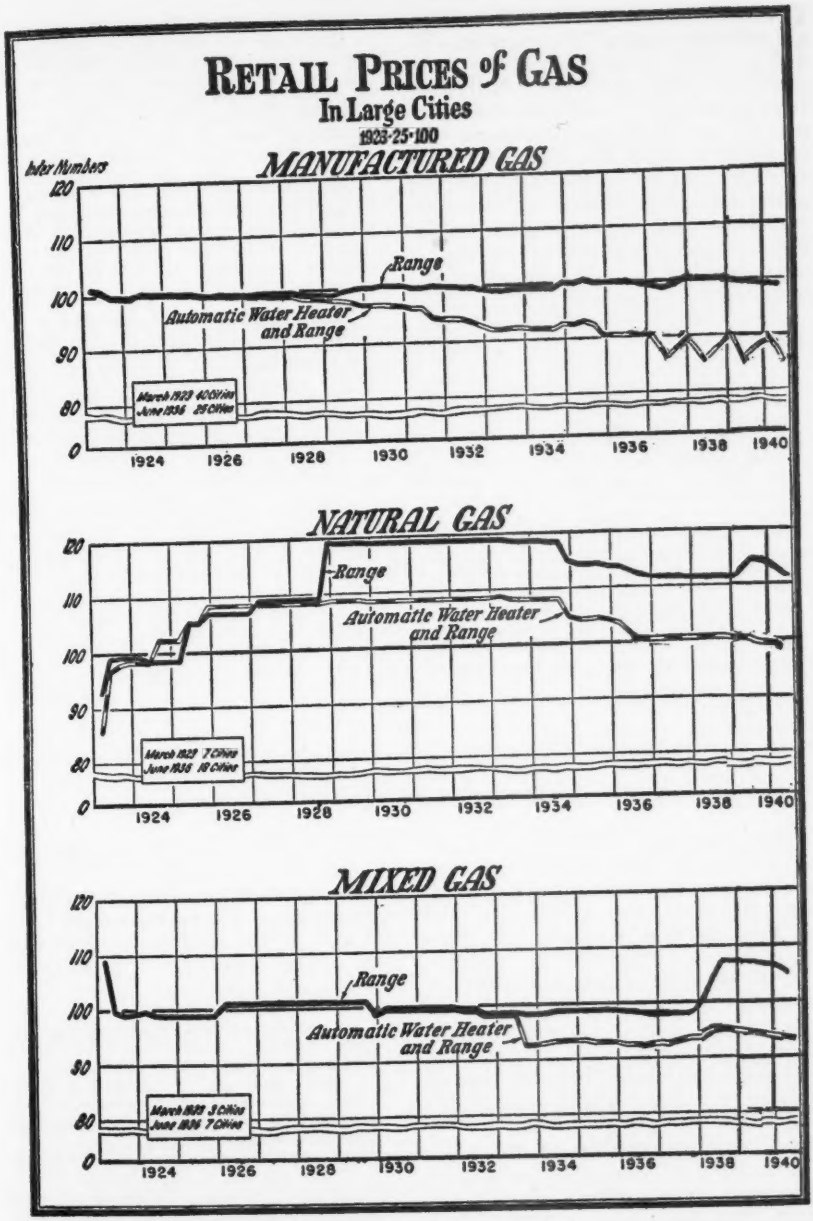
1. *Length of time.* Ordinarily no presumption of forfeiture after seven years of unexplained nonmarketing is likely to be sustained.

2. *Extent of diligence.* If the lessee gives sensible and candid evidence of efforts undertaken to market natural gas, the courts are likely to be lenient. Such evidence should go into the quality and pressure of the gas, accessibility of pipe lines, prevailing prices, and extent of marketing negotiations.

3. *Probability of speculation.* On the other hand, if the courts are convinced by the lessor that the real purpose of the operator has been one of speculation rather than active development, forfeiture is likely to be established. While operators might shut up wells for a year in order to get a better price, the law simply will not permit properties to be tied up without rents or royalties, by a lease that represents primarily an intent to gamble.

4. *Amount of investment.* Aside from length of time, extent of efforts, and probability of speculation, the principal element in such cases is the cost of the lease to the speculator. The courts are reluctant to forfeit where the operator's investment reaches a large figure. This is obviously because the operator has every reason to protect such investment. Hence details as to development cost are admissible and important evidence.





Source: U. S. Bureau of Labor Statistics (from 1923 through June, 1940)

SUCH is the problem of forfeiture of nonactive leases. The operator who makes some rental payment by lease stipulation and compromise is fairly safe from litigation. It is only when the lessor receives no return, notwithstanding the burden on his land, that the ancient common law tradition requires redress. The courts are fairly tolerant in situations where no amount of diligence could achieve reasonable marketing success, or where speeding up production would result in reckless waste of gas resources.

Messrs. Williams and Goodwin concluded:

> The border-line instance causes the difficulty. Without deciding whether the hard cases have made good or bad law, it is proper to say that forfeiture for nonmarketing has been more freely available in recent decisions than the historical precedents of chancery would justify. That remedy should never be decreed unless in an extreme case the operator's conduct has been such as clearly to indicate that he cannot or will not market within any reasonable future period. And seeking equity, probably the lessor ought to do equity by compensating the operator for casing and necessary equipment: Their confiscation without payment might violate the lease, but their removal would quite likely destroy the producing well. If one may not turn the clock back as regards present law, then it might be wise to substitute conditional decrees—so that the forfeiture would become effective only in the event the lessee were unwilling to pay damages based on his failure to market. These damages could quickly be calculated if the lease called for gas well rentals; otherwise, the estimated gas royalties lost might follow the measure of damages sanctioned in those few jurisdictions which limit the lessor to an action at law on the implied covenant to market. In effect, the respondent could thus pay up or surrender.

The increasing use of gas royalty provisions raised the question as to the fate of the nonmarketing lessee. The attitude of the courts is somewhat hazy on specific details. Possibly the best solution would be the contractual substitution of fixed rentals for unearned royalties. In any event, the common law will not allow oil and gas leases to become through the lessee's inactivity what a Virginia court once called "a snare for the entrapment and injury of the unwary landlord."

FORFEITURE OF LEASE FOR FAILURE TO MARKET GAS. By C. C. Williams, Jr., and R. B. Goodwin. *West Virginia Law Quarterly*. June, 1940.

Gas Testing—A Little Known Commission Function

THE Maryland Public Service Commission is representative of the best in state regulatory tradition in the American utility field. It is a little older and has been, perhaps, somewhat more active than some of the other commissions. Yet, its handling of routine gas service regulation is probably typical of what goes on in state commission offices throughout the rest of the country.

If you were to walk into the Munsey building in Baltimore, where the Maryland Public Service Commission has its offices, and take an elevator up to the seventeenth floor, you would find a room given over to gas testing. A tiny gas flame burns inside a big machine. Characteristic of all gas utility service, the flame burns silently and continuously hour after hour, day in and night out, and month after month.

Describing this function of the Maryland commission in a series of articles on the work of the state government, a recent article featured in the Baltimore *Evening Sun* stated:

> It's one of the things the average taxpayer probably doesn't know about the public service commission. It is, to be exact, part of a technique by which that agency makes a continuous test of the manufactured gas that goes into all the kitchen ranges and other gas burners in the city.
>
> Object of the test is to make sure that the B. T. U. content of the gas (British Thermal Units) is up to snuff. This is more important than it sounds, for if the heating power of the gas goes down, then your gas bill goes up. And only if the B. T. U. content remains constant, within permissible varia-

"YOU SAY YOU WERE TRYING TO FIND A GAS PIPE LEAK WITH A MATCH? I PRESUME YOU SUCCEEDED"

tions, does the rate per cubic foot mean anything.

In addition to this interest in your gas bill, the commission manifests a similar interest in your olfactory nerves. From time to time, in its laboratory, it runs "smell tests" to see that the gas you burn doesn't smell too bad. If it does, if it has too much of this or too much of that, then they call up the gas company and get it fixed.

Of course, if the gas doesn't have a sufficiently strong smell to make the average human nose sensitive, it is deficient from the standpoint of safety. This is especially true of natural gas, which ordinarily has no smell whatever and which if released in a confined space would kill the average human being just as silently and efficiently and almost as painlessly as those insidious carbon monoxide fatalities one reads about in the newspapers.

In other words, naptha or other chemicals must be artificially added to sweet natural gas as a sort of life-saving alarm so that the average person will know when it is escaping and present in sufficient quantities to do bodily harm.

Continuing its comment about the Maryland commission, the Baltimore *Evening Sun* stated:

> These are routine activities. They go on all the time. But the commission is also prepared and ready to handle nonroutine affairs within its jurisdiction.
>
> Suppose, for example, that an irate householder thinks his gas bill is too high. He squawks to the commission. The commis-

sion warns him that it's probably not his meter but that, if he wants to, he can find out by gambling a dollar.

John Smith thereupon puts up the dollar and the commission takes over his meter for a test. Through the meter they force a known volume of air. If John Smith is right (that is, if the meter is wrong), then he gets his dollar back. And if not, not.

Usually the meters are correct, for the commission tests them all in advance of installation. That's one of its jobs. Last year the inspectors tested and approved some 43,000 electric meters in this way and put about 44,500 gas meters through their paces.

Fundamentally, according to the law, the job of the public service commission is simple. It is supposed to "see that safe, adequate, and convenient service is rendered by the public utilities at rates which are just and reasonable and not unduly discriminatory." In other words, it is supposed to see that you get what you pay for—and that you don't pay too much for what you do get.

Simple enough, as far as it goes, but the job is actually more complex than it sounds.

UNFORTUNATELY, this type of routine is one of those exceedingly helpful functions of regulatory commissions which average citizens rarely hear about and probably do not know about. Commission regulation has chronically suffered from bad publicity. The man on the street reading about court battles gathers the impression that regulation is one long, bitter fight between the commission and the utilities. Actually, only a small fractional margin of commission work is devoted to contested litigation. This fraction would vary, of course, with different state commissions, but all of them devote most of their time to protecting the interest of the utility consumer whether he knows about it or not. This protection is carried on in little unseen ways, such as gas testing and meter testing.

The commissions also protect the rights of consumers in those increasingly rare controversies over alleged meter tampering. Meter tampering more often involves electric rather than gas service, for the simple reason that "jumping" an electric meter requires only an elementary knowledge of electricity and some wire in the hands of persons with dishonest intentions. Constructing a "by pass" to prevent gas from registering on the utility meter requires a substantial plumbing operation. Furthermore, once installed, a "by pass" cannot be slipped in and out of sight like the illegal electric meter-tampering device.

Yet commissions have laid down rules in the early cases protecting consumers from unwarranted suspicion or penalties where "by pass" devices have been discovered. In a Wisconsin case such a device came to light after it apparently had been used for a number of years to reduce the amount of registration on the consumer's gas meter. In such a situation, where there was doubt as to the responsibility of the real party at fault, the commission ordered a restoration of service by the gas company under circumstances fair to the consumer.

METER inspection employees of most gas companies have humorous stories to tell about attempts to "doctor" meters, which are occasionally brought to light by the alert eyes of the company's meter readers. Such is the tale told about Brickbat Mary, an old lady fairly well endowed with this world's goods, who lived for many years in a large upstate city in New York. The nickname, of which she never learned, was a gift from gas company employees.

Somehow or other this parsimonious old spinster got the impression that heavy weights piled on top of the gas meter retarded the registration. Consequently, she used to keep a bunch of brickbats stacked neatly on top of the instrument. She would carefully remove and replace the bricks every time she would admit the meterman. The meter reader, at first puzzled by the obvious evidence of what was taking place, finally got the idea and reported to his superior. On the next reading the meterman simply checked the reinforcements of the meter to see that it would carry the extra weight.

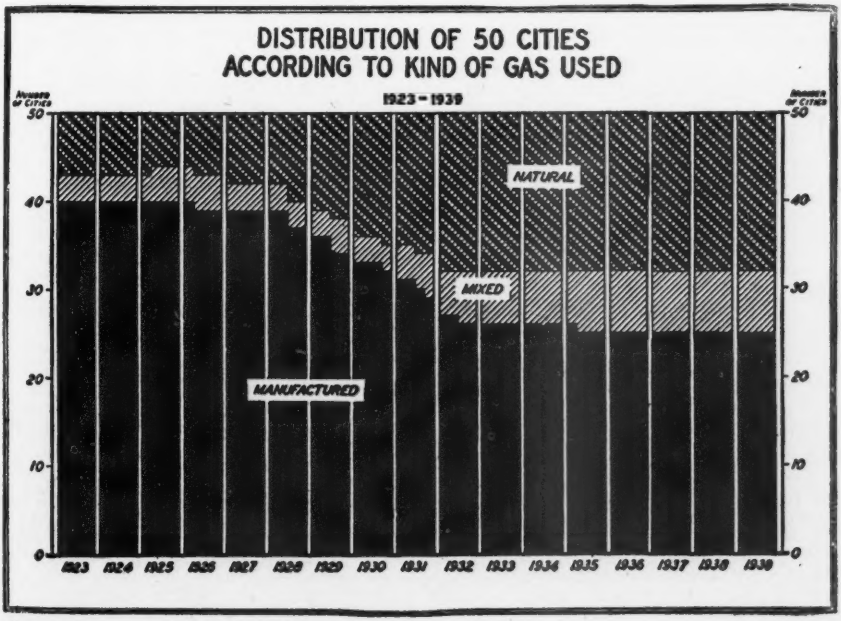
In this way the gas company allowed Brickbat Mary to pursue her harmless diversion for many years. The old lady finally died and went to her reward —or punishment—under the impression that she had systematically chiseled

a portion of her bill from the gas company the whole time.

Not so harmless, from the gas company point of view, are the amateur chemists with dishonest intentions, who occasionally ruin or seriously damage gas meters through the use of corrosives intended to impede normal registration of gas. Rapid progress in the art of gas meter manufacturing during recent years, however, has tended to produce sturdy units which are virtually tamper proof if not actually foolproof. Unintentional damage, but just as hard on the meter, is the result in numerous cases experienced by gas companies in the form of bullet holes through the meters. These usually come from the quaint American diversion of shooting rats in the cellar.

MOST gas company officials don't see anything funny at all about meter tampering. But no narrative on the subject would be complete without reference to the ingenious Britisher, who managed to swindle the gas company in London out of a considerable amount of petty change through the old-fashioned quarter-in-the-slot prepayment meter. This type of meter was widely used in the older sections of the British metropolis where gas is still largely employed for illumination. Naturally, the company collected a number of slugs and home-manufactured shillings out of its meter boxes.

A certain suspect seemed to use gas plentifully on a miraculously small number of shillings, but no slugs were ever found in his meter. One keen-eyed inspector, however, detected an extraordinary amount of rust one day. Whereupon it was discovered upon closer investigation that the consumer had some way of making ice discs into the size of a shilling piece. These were capable of working the meter. Naturally, the "evidence" melted after the gas valve was turned on.



Source: U. S. Bureau of Labor Statistics

The March of Events

FPC Ponders New Pipe Line

CURTIS B. Dall on September 23rd urged the Federal Power Commission to approve his plans for a $20,500,000 natural gas pipe line from the Louisiana-Texas fields to Tennessee and North Carolina. Dall was the first witness at the hearing which opened on that date.

Identifying himself as a New York investment banker and president of the Tennessee Gas & Transmission Company which seeks authority to pipe the gas to Chattanooga, Nashville, Knoxville, and other Tennessee cities, and Asheville, North Carolina, Dall said the company could offer wholesale rates that would allow sharp reductions in charges to retail consumers.

Dall said no natural gas was being sold in Tennessee except in the western part of the state, including Memphis and Jackson, and that the Tennessee valley territory "developing rapidly," the availability of the gas would augment power available for defense projects.

St. Lawrence Plan Revived

PRESIDENT Roosevelt revealed last month that the United States and Canada were considering separation of the electric power and navigation parts of the Great Lakes-St. Lawrence waterway, immediate development of the power and postponement of the navigation feature.

In response to a question at a press conference, the President disclosed that construction of works solely for the production of St. Lawrence river electric power for defense purposes in the United States and Canada were being considered. Development of the power would require only two or three years, the President asserted. This would involve no wait for construction of navigation works requiring longer time, five years according to some estimates.

In response to a further question, the President said the power development works could be constructed without any prejudice to future development of navigation if that should be desired later.

The sudden new turn in the seaway situation would involve postponement for an uncertain period of all the navigation features of the seaway which are virtually its sole interest to the Lake area and the landlocked Midwest.

"Utility Issue" Not Decisive In Presidential Campaign

CONTRARY to certain earlier indications, the so-called "utility issue" has to some extent been sidetracked in the presidential campaign, according to neutral observers. When Secretary of Interior Ickes opened the Democratic campaign with an attack upon the business background of the Republican standard bearer, it was generally predicted that the differences between the New Deal administration and utility industries, especially electric power companies, would be widely discussed.

But an apparent switch in the Democratic strategy came several weeks later when the Democratic vice presidential candidate, Henry A. Wallace, stressed the foreign policy as the leading issue of the campaign, from the New Deal point of view. The action of the Republican candidate for both President and Vice President in approving the general objective of widely distributed cheap power as a by-product from public multipurpose projects was viewed as further shunting the "utility issue" out of the campaign limelight.

Mr. Willkie, on September 23rd at Portland, Or., said that the people were entitled to such benefits from the huge public power projects, but that they were also entitled to the right of local determination as to whether public or private distribution facilities should be employed.

Out of fifty veteran newspapermen recently polled by the magazine *Newsweek*, not one expressed any belief that the utility issue would make any difference in the election result in favor of or against the candidate of either political party. The majority of the writers expressed the view that the leading issue from the Democratic point of view would be to stress the importance of a continuous foreign policy, while from the Republican point of view it would be the third term.

However, nineteen House members, in a signed statement made public September 21st, urged President Roosevelt to use "every existing authority in law" to balk what they said was an "effort to elect men to Congress who will vote for the interests of the private utility corporations."

The Congressmen, seventeen of whom are Democrats, asserted it was a matter of common belief among persons conversant with

public affairs that privately owned public utility corporations throughout the nation, particularly those engaged in the electric power business, are contributing large sums of money to influence the outcome of political campaigns.

Transportation Bill Signed

PRESIDENT Roosevelt on September 18th signed the Wheeler-Lea bill which will combine all regulation of interstate commerce, except air traffic, within the Interstate Commerce Commission. The principal effect of the new law is to transfer jurisdiction over inland waterways from the Maritime Commission to the ICC.

The new law, which puts railroads, busses, trucks, and water carriers on the same plane of regulation, was approved after almost two years of controversy in Congress, which at times threatened to result in death of the measure simply by inaction. It was passed by both houses of Congress a year ago, but in such varying forms as between the Senate and the House that conferees virtually had to write new legislation.

Water carriers resisted the bill to the last on the ground that the measure would result in destruction of water carriers by forcing them to compete on even terms with the railroads. Henry A. Wallace, then Secretary of Agriculture, joined in protesting against passage of the bill because of fear that it would give railroads an eventual dominance in the transportation scheme which would injure the interests of farmers.

The bill provides for the creation of a 3-man board charged with investigating the presumable effects of the new type of regulatory operation, and a report to the President, particularly on the contentious question of whether it provides "equality" for all forms of transportation. The railroads endorsed the measure from the start.

The bill contains definite assistance for the railroads in a provision that reduced rates on government traffic need no longer be granted by land-grant railroads, except on traffic handled for the Army and the Navy.

Arkansas

"Sour Gas" Cheap Fuel

PETROLEUM men recently informed R. S. Reynolds, president of the Reynolds Metals Company, Richmond, Virginia, that substantial operating economies could be realized by an aluminum manufacturing plant located in south Arkansas, because of the low price of "sour gas" in the fields at Magnolia and at McKamie, Lafayette county.

Engineers believe the "sour gas" could be used to generate electric power at a cost equal or less than the cost of power sold by the Tennessee Valley Authority from its hydroelectric plants in the Tennessee valley. A huge generating plant at Sterlington, Louisiana, which has the Arkansas Power & Light Company for one of its customers, now uses Louisiana natural gas for fuel.

Governor Bailey said state conservationists estimate "trillions" of cubic feet of "sour gas" are available in south Arkansas, the supply being considered inexhaustible.

Dr. George C. Branner, state geologist, who recently returned from Washington, said T. R. Goebel of Houston, Texas, representing the Shell Oil Company, and L. A. Sunkel of Dallas, Texas, of the Atlantic Refining Company, recently conferred with Mr. Reynolds at the request of Arkansas' Washington office supervised by the Arkansas Agricultural and Industrial Commission.

Frank M. Wilkes of Pine Bluff, vice president of the Arkansas Power & Light Company, joined the conferees in Washington. The power company would coördinate its system with any new generating equipment installed, it was said.

Shell owns gas reserves in the Magnolia field, and Atlantic has interests at McKamie. The companies are interested in the location of an aluminum plant, probably at Camden or Benton, to process bauxite. (See "What Others Think" department, page 529.)

Gas Hearing Set

THE Federal Power Commission on September 16th ordered a public hearing at Little Rock on October 14th on complaints of the Camden Gas Corporation that rates charged by the Arkansas-Louisiana Gas Company to five other cities are discriminatory in comparison to rates charged Camden.

The Camden Corporation charged it paid 21.6 cents per thousand cubic feet while the Arkansas Louisiana Company delivered gas at 10.61 cents to its own plants at El Dorado, Louann, Norphlet, Smackover, and Texarkana. Declaring this created an "unlawful and unreasonable prejudice and disadvantage," the complaint said the conditions of transportation, sale, and delivery of natural gas to all Arkansas towns were the same.

Company Charges Conspiracy

THE West Memphis Power & Water Company filed suit in the Jonesboro division of the United States District Court on September 17th charging the Arkansas Power & Light Company with conspiring with Cherry,

Villareal Company, Inc., of Little Rock, and the mayor and certain other city officials of West Memphis to acquire the plaintiff's exclusive franchise for the distribution of electricity in West Memphis.

The West Memphis Company asked for a temporary injunction restraining the defendants from attempting to purchase any electrical transmission system and from issuing or accepting any certificates of indebtedness to obtain funds for purchase or operation of any electrical transmission system. The injunction was granted on September 20th. Hearing was set for October 18th.

The West Memphis Company also asked the court to declare void a resolution adopted by the West Memphis city council on May 14, 1940, authorizing the mayor to sign a contract with Cherry, Villareal Company, Inc., for financing purchase of the distribution system of the West Memphis Power & Water Company.

The company charged the resolution authorizing execution of the contract was void among other reasons because it was adopted at a meeting of the city council when a quorum was not present, and that acquisition by the city of the transmission system would create a debt in excess of the limit prescribed by Amendment 10 of the Arkansas Constitution.

California

Rate Reductions Announced

REDUCTIONS of $200,000 annually in the gas and electric rates of the San Diego Gas & Electric Company, effective with meter readings on and after November 1st, were announced on September 16th by Commissioner Justus F. Craemer of the state railroad commission.

The new adjustment in rates followed completion of the commission's annual investigation of the operations of the utility. A conference was held in San Francisco on September 16th between members of the commission, its staff, and L. M. Klauber, vice president of the San Diego Gas & Electric Company, and Walter Cooper, rate expert representing the city of San Diego.

Mr. Craemer explained that the company was presently engaged in stock and bond refinancing and there were still some taxation matters to be determined. For that reason, he said, final determination of the rates would be made in the near future, as soon as these uncertainties are determined.

The reductions will apply to all domestic and commercial customers with decreases in San Diego as well as all cities and rural areas throughout the county served by the company. Approximately $125,000 of the reduction will apply to electric service and $75,000 to gas service.

Natural Gas Service Planned

THE Pacific Gas and Electric Company last month announced plans to serve Eureka with natural gas in the near future, replacing the present manufactured fuel service.

P. M. Downing, vice president and general manager of the private utility, said contracts had been signed with the Texas Company to supply the gas from three wells drilled recently at Fernbridge, 14 miles south of Eureka.

Natural gas contains double the heat units per cubic foot of manufactured gas.

New Hetch Hetchy Plan

A NEW plan for city-wide distribution of Hetch Hetchy power under a leading agreement with the Pacific Gas and Electric Company was proposed by the company recently to Manager of Utilities E. G. Cahill of San Francisco.

The new plan would appear to meet the demand of Secretary of Interior Ickes that any agreement meeting his approval must provide for the transfer of those PG&E employees affected to the status of municipal employees. Submission of the plan, termed "Plan E," was made by James E. Black, president of the Pacific Gas and Electric Company, on the eve of the deadline set by Cahill for September 20th.

Cahill said the plan contained certain fundamental differences from Plan C which, without having had time to study them, appeared to be favorable to the city.

Protests Utility Charter

OPPOSITION to a charter amendment, as drawn, permitting use of tax funds for improvement and extension of city-owned utilities was voiced by Utilities Manager Cahill of San Francisco. The amendment, which was introduced by Chairman McSheehy of the supervisors' judiciary committee, would allow each utility to draw up to $500,000 annually from tax funds for additions, extensions, and other capital costs.

The utilities commission, Mr. Cahill said, favors only a total of $500,000 for the five major utilities and he was at a loss to account for insertion of the word "each" into the amendment.

The amendment was recommended to the supervisors by the grand jury following its investigation into operations of the municipal railways. As interpreted by the public utilities commission to provide a maximum of a half-million dollars for all utilities, the proposal had the approval of the commission.

Colorado

Gas Hearing to Be Held

DENVER'S application for lower gas rates—made nearly two years ago in a complaint against the Public Service Company of Colorado—will be heard in Denver on October 28th by the Federal Power Commission, city authorities were notified recently in a formal order from Washington, D. C.

Legal maneuvering, delays, litigation, and investigations have beset the application since it was first made by Mayor Benjamin F. Stapleton in December, 1938. An examiner of the FPC, or perhaps Claude L. Draper, a member of the 5-man commission, will come to Denver to conduct the hearing, expected to extend over three weeks.

The most important feature of the city's application is a petition for a reduction in the "gate rate" that the Public Service Company pays the Colorado Interstate Gas Company for gas transported from Texas fields to a point just outside the city limits. The base rate which the city seeks to have reduced is 40 cents a thousand cubic feet. Even now, however, the rate fluctuates, depending on the amount of gas consumed by domestic users, industrial consumers, and others.

The city contends, as a result of surveys made by the city rate experts, that the Public Service Company actually pays the Colorado Interstate Gas Company an average of 29.5 cents per thousand cubic feet of all gas that comes through the gate just outside Denver.

The city contends further that the Public Service Company collects from all its customers in Denver, including small home owners and industrial users of large amounts, a total of 57 cents a thousand cubic feet for this same gas.

Connecticut

Study Municipal Acquisition

DANBURY & Bethel Gas & Electric Company, subsidiary of Cities Service Company, was expected to be sold under the Cities Service Company's plans for simplification of its corporate structure, it was reported recently. It is possible that it may become a municipally owned and operated system, with the city of Danbury in possession. First Selectman M. H. Schlitter, in an interview, stated that "a study is being made with the view of ascertaining the facts and it is possible that purchase of the company, as a municipal enterprise, may be recommended."

It was understood that the price being asked for the properties was more than $5,000,000.

Some competitive bidding for the property was expected to develop. Residents of Bethel might be interested in engaging in the utility business, and, as a bidder could receive equal consideration.

Illinois

Rate Cut Petition Denied

THE request for electric rate reductions filed by eight apartment dwellers against the Commonwealth Edison Company was dismissed by the state commerce commission recently.

Charles Liebman, attorney for the group, said an appeal from the order would be taken to the courts. His petition charged that the company had failed to comply with a commission order entered in October, 1936, directing a rate cut of $2,500,000 a year.

The commission, which had already refused Liebman's request that it issue subpoenas for Edison books and records, said it had found no evidence that the rate order had not been carried out.

Indiana

Hearings on Gas Deal

THE state public service commission recently set October 1st for hearings on new petitions filed in the proposed sale of the gas-producing plant and distributing system at Richmond by the Indiana Gas Utilities Company to the Richmond Gas Corporation.

Hearing on the original petitions was held August 13th, but a change in the Richmond Gas Corporation's corporate structure was found necessary.

In its new petition, the Richmond Corporation asked authority to issue $400,000 of first

mortgage bonds, $50,000 of preferred stock, and $150,000 common stock. The original petition asked authority to issue $400,000 of first mortgage bonds, $100,000 of preferred stock, and $114,000 worth of common stock.

The other new petition was by the Indiana Gas Utilities Company to sell the plant and system to the Richmond Corporation.

Kentucky

Refund Rules Changed

THE state public service commission on September 19th issued a series of orders affecting refunds and extension charges by gas, water, and electric utility companies. The refund changes extend from three to twelve months, the maximum period for which monthly bills are to be recalculated by the utilities when it has been shown by tests that a meter is registering at least 2 per cent fast.

The other changes extend the length of distribution extension lines supplied to consumers free of charge. For water companies the change was from 50 to 75 feet, gas companies 50 to 100 feet, and electric companies 150 to 250 feet.

The companies also may be required to construct extensions longer than the maximums upon a commission finding that such extension is "economically feasible." The changes became effective October 1st.

In another ruling the commission ordered utilities requiring deposits from consumers for defraying the cost of extending distribution systems to pay the consumers 6 per cent interest on the deposits. Commissioner T. B. McGregor estimated that deposits on which no interest was being paid totaled "less than $20,000."

Gas Hearings Delayed

THE Federal Power Commission on September 13th continued indefinitely a hearing on rate increases proposed by the Kentucky Natural Gas Corporation. Hearings had been held July 15th and 16th and were to be resumed September 16th.

The FPC said a proceeding was pending before the Federal Circuit Court involving the jurisdiction of the Kentucky Public Service Commission over rates charged by the corporation within the state. Among companies which had protested against the proposed rate increases before the Federal commission were the Kentucky-Tennessee Light & Power Company and the Owensboro Gas Company, Kentucky corporations.

Buys Power Rights

PADUCAH'S 4-year-old power franchise issue was settled last month when the Kentucky Utilities Company purchased for $1,000 the contract to furnish power for a 20-year period.

Under terms of the franchise, which was a compromise ordinance passed several weeks ago by the board of city commissioners, $1,000 was the minimum price and at any time during the 20-year period the city may buy assets of the franchise holder on an 18-month notice. The Kentucky Utilities Company submitted the only bid.

Meanwhile, R. V. Green, manager of the Kentucky Utilities Company's plant in Paducah, said plans had progressed for the complete rebuilding of the city's downtown whiteway illumination system and of the street-lighting system throughout the corporate area —as agreed to by the company as a consideration for obtaining the franchise.

Massachusetts

Rate Revisions Filed

THE Boston Edison Company last month filed with the state department of public utilities a series of rate revisions under which 130,000 customers will share in reductions amounting to about $750,000 annually. The new rates were effective October 1st.

Mississippi

Gas Line Plan Approved

NO protests were filed on the application of the cities of Moss Point and Pascagoula for constructing a natural gas pipe line across the Escatawpa river between Escatawpa and Moss Point. The deadline for filing objections expired on September 16th. The United States Engineers of the War Department, with headquarters in Mobile, were expected to grant permission for construction of the line.

The specifications call for a 5-inch line to

be laid at a depth of 27 feet below mean low water for a distance of 150 feet through the swing span of the highway bridge at that point. The pipe line is to supply Moss Point and Pascagoula with natural gas. Both cities have ordered bond issues to care for the construction cost. Pascagoula issued $350,000 bonds and Moss Point $80,000.

Nebraska

Studies Utility Purchase

THE Central Nebraska Public Power and Irrigation District of Hastings was reported last month to be again studying the feasibility of buying the Southern Nebraska Power Company, but it was said the move could not be interpreted as a resumption of Nebraska hydro districts' previous program to buy all the state's private utilities, according to R. O. Canaday, general counsel.

The Central Nebraska (Tri-County) District has had a contract for two years to buy Southern Nebraska.

Oklahoma

Tax Adjustment Clause

THE recent electric rate reduction of $315,000 a year, ordered by the state commission for customers of the Public Service Company of Oklahoma, contained an interesting tax adjustment clause. The new schedules apply, respectively, to domestic and commercial rates. They have the usual step rates designed to encourage increased use.

However, the company is allowed to charge, in addition to the base step rate, "a percentage added thereto based on taxes." The commission's order recognized that the tax charge will vary from year to year. Changes will be made by rider or otherwise, when it is shown to the satisfaction of the commission that the percentage of taxes to gross revenues of the previous fiscal year justify such a change. The tax clause does not apply to industrial, wholesale, or any service other than domestic and commercial.

Oregon

Electric Rates Reduced

THE McMinnville city light department informed Bonneville Power Administrator Paul J. Raver on September 20th that it had announced new rate reductions which will save McMinnville electric users approximately $45,000 annually.

The new schedules will be retroactive as of August 15th, with first bills under the new rates payable October 1st, the date on which the Bonneville Power Administration was to make initial delivery of Columbia river power to McMinnville's municipal system.

Savings to domestic power customers will average 27 per cent, Milton H. McGuire, city light superintendent, said. Savings to commercial customers will average 31 per cent, he said. It was pointed out that the new schedules closely follow the standard retail rates recommended by the Bonneville Power Administration to its wholesale customers.

PUD Proposals

HARRY M. Kenin, chairman of the Bonneville-for-Portland Committee, announced recently that there would be no public power issue on the November 5th ballot. He said proposals for another vote on a people's utility district for Portland had been dropped.

The committee, which sponsored a PUD vote in the May primary and lost, had obtained forms from the hydroelectric commission and had only to request another vote to place the PUD on the ballot again. Proponents of public power recently petitioned the city council for a November vote on a proposal for municipal ownership, but the council refused. It was said to be too late to obtain such a vote by circulating petitions.

PUD sponsors have the authority to petition the state hydroelectric commission at any time and without further circulation of petitions to call a special election for another vote on the issue, Kenin said. A special election on municipal power would be possible only after circulation of petitions.

Proposals for the creation of 11 people's utility districts in Oregon, instead of 10, will be on the ballot at special elections to be held in conjunction with the general election in November, the state hydroelectric commission decided at a recent meeting at Salem.

Woodburn city officials, deliberating outcome of the special election last month which

launched the municipality into the power distribution field, declared recently that little action would be taken toward transforming the mandate into a reality until after the general election November 5th.

At that time voters will decide the fate of a proposed Marion County People's Utility District. Organization of such a PUD would require revision of Woodburn's plans for developing an electrical system independently, it was agreed.

The recent vote empowered the city council to issue bonds up to $65,000 to acquire or build a distribution system.

Bond Issue Vote Approved

As a result of unanimous action by the board of directors of the Tillamook People's Utility District last month, a $750,000 revenue bond issue will be submitted to the voters of the district for their approval at the November general election. The voters will decide whether or not to authorize the directors to go ahead with their plans to purchase or construct transmission lines to supply the district with Bonneville power.

John Schild, chairman of the board, said it was the board's intention to enter negotiations with the Mountain States Power Company to acquire its Tillamook properties.

The board also voted to pay taxes on all real or personal property acquired by it with the funds for the taxes to come from income derived by the board through its operations. Schild also announced that the revenue bonds would place no additional taxation on property owners of the district.

Pennsylvania

New Electric Tariff

The state public utility commission recently announced the Pennsylvania Electric Company, serving territory in Johnstown, Cambria, and other western counties, would file a new tariff estimated to save customers a total of $406,300 a year. This reduction brings to a total of $502,700 savings secured by the commission from this company.

The residential savings will amount to $319,700; commercial, $59,700; resale electricity, $14,000; and street lighting, $12,900.

PUC Secretary Named

Dismissal of Joseph P. Sheridan, Democrat, as secretary of the state public utility commission, and the naming of Robertson Cameron, Republican, as his successor, does not mean that the Republican-controlled commission will weed out the several hundred Democrats still working in the commission offices, Governor James said in a recent statement.

The governor said he was not advised of the change in the office of secretary by Chairman John Siggins until after it had been made. He said the change was made because the commission desired the man who supervises much of the commission work to be in sympathy with the board members.

When the commission became Republican last spring, the governor said there would be no dismissal of Democrats there because they are Democrats.

South Carolina

Rate Reduction Announced

The electric rates charged by the South Carolina Electric & Gas Company have been reduced, it was announced recently by John C. Coney, chairman of the state public service commission. Mr. Coney formally made public the fact that an agreement had been reached between the commission and the company for the reduction, the effect of which will be to save customers of the company approximately $143,700 annually.

The agreement was said to be the outcome of negotiations begun in 1938 and which resulted in a previous reduction, which took place early in 1939.

Mr. Coney directed attention to the fact that the company is now engaged in a large program of improvement to its facilities, a construction program which, when it shall have been completed, will represent an outlay by the company of more than $1,000,000.

Since 1932, when the state began its regulation of utility rates through the Electrical Utilities Act, a total reduction of more than $550,000 a year in electric rates has been made by the company. During the same period, the residential usage of power by the customers of the company has grown from 6,458,056 kilowatt hours in 1932 to 17,784,408 kilowatt hours in 1939. Average annual use per customer during the same period has increased from 570 kilowatt hours to 1,008 kilowatt hours.

The new reduction will apply to the majority of the company's customers other than the minimum users, and will make savings for commercial and industrial users, as well as for domestic customers, Mr. Coney said.

Texas

Gas Merger Asked

TESTIMONY that the proposed acquisition by the Community Natural Gas Company of the Texas Cities Gas Company would benefit investors and would not affect consumers was given the Securities and Exchange Commission at Washington recently.

The statement was made by D. A. Hulcy, Dallas, president of the Lone Star Gas Company, which owns both of the companies concerned. No securities of either are outstanding in the hands of the public.

The Community Company is seeking SEC permission to take over, for $8,769,241, distributing equipment and assets of the Texas Cities Company in El Paso, Galveston, Waco, Paris, and Brenham.

Hulcy testified before Examiner William W. Swift that the only effect on investors holding stock in the parent corporation would be favorable, through contemplated economy of operation.

Reject Gas Project

THE recent election by the taxpayers of Beaumont on the question of issuing $1,700,000 bonds for constructing a municipal natural gas distribution system in that city resulted in its defeat by a vote of 2,696 to 2,123.

It was said to mark the end of a controversy that had been going on for several months between Mayor George W. Morgan and other leading supporters.

Washington

Rate Cut Aids Payrolls

SEATTLE City Light's newest rate cuts, effective October 1st, not only will save commercial and industrial light and power customers an estimated $251,000 a year, but will contribute much to the growth of business and payrolls in Seattle, Superintendent E. R. Hoffman asserted. He stated:

"Lower power rates, an attraction of increasing importance to business and industry, are to be greatly accentuated here through the national defense program. City Light will follow through with further rate cuts as rapidly as customers and revenues increase. In the past two years City Light gained about 7,500 customer meters in service, from about 95,000 to more than 102,000.

"These rate cuts for business and industry are, of course, beneficial to all citizens indirectly. The two previous rate cuts, made by City Light within the past year, benefited residential customers and made the aggregate consumer savings exceed $663,000 a year."

Hoffman asserted that much had been accomplished in the past year toward shortening the gap between cost of production and cost delivered to customers. This, he said, was being brought about by increasing the number of customers within the Seattle metropolitan area, and by greatly increased operating efficiency and economies. The ratio of distribution cost goes down as the number of customers and the consumption of power increases.

Asserting that the City Light rate cut program has forced important rate cuts throughout the state, Hoffman estimated that the rate reductions to be effected this fall outside of Seattle will save consumers an additional $500,000 a year.

To Vote on Power Plan

VOTERS of Spokane will vote next March on a proposal to establish municipal distribution of electricity. The city council last month agreed to place the proposal before the electorate after receiving a petition headed by the name of C. C. Dill, Democratic gubernatorial nominee.

Power would be obtained from the Grand Coulee-Bonneville lines.

Wisconsin

Natural Gas Hearing

THE Federal Power Commission was scheduled to hold a public hearing on the application of the Western Natural Gas Company and the Independent Natural Gas Company request to pipe lines into the state on October 7th, the state public service commission announced recently.

The state commission has held a hearing to determine whether these gas companies' activities come under its jurisdiction. The outcome on this question was not known since the commission at the time had the question "under consideration."

The Western Natural Gas Company is known in the state as the Wisconsin Natural Gas Company.

The Latest Utility Rulings

Ohio Court Sustains Commission Ruling On Gas Rates Fixed by Ordinance

THE Ohio Supreme Court, sustaining commission authority to fix rates or to pass upon the reasonableness of ordinance rates in the absence of contract, upheld the decision of the commission [27 PUR(NS) 387] on rates in the city of Cleveland.

The right of the company to recover the cost of wasting assets was affirmed. Amortization of this item was approved. Such amortization was held to comprehend not only exhaustion of reserves under productive leaseholds but also the cost of acquiring and carrying leaseholds to replenish and stabilize the gas supply, although later found to be unproductive.

An allowance of 16 per cent for general overheads was sustained as against a contention of arbitrariness and unreasonableness. The decision had been based upon an early agreement approving that figure, a report of city engineers also recognizing it, and a joint engineers' report to the city council on the same basis. Moreover, the general rule was stated that the amount to be allowed for general overheads does not depend upon proof of expenditures but upon estimates.

The court announced the rule that it would take judicial notice of a decline in the general interest rate but would not take judicial notice of the amount of the decline. An annual rate of return of 6½ per cent was held to be sufficient. A finding on the question of leakage, based upon expert testimony and factual evidence, was sustained.

Claims that errors in practice and procedure warranted a reversal were dismissed. It was not error for the commission to refuse to stay the proceedings awaiting the report of the Federal Power Commission on the city's application for an investigation of the rates charged by a wholesale company to the distributing company. No error was found in the commission's denial to the city of an opportunity to inspect the gas pipes to observe their condition. Inspection methods for determining accrued depreciation had been rejected by the commission.

No error was found in a refusal by the commission to require the company to produce certain information. *East Ohio Gas Co. et al. v. Public Utilities Commission, 28 NE(2d) 599.*

Materiality of Income from Subsidiary

EXEMPTION from registration, pursuant to §§ 3(a)(1) and 3(a)(2) of the Holding Company Act, was denied in the case of the Public Service Company of Oklahoma. The Securities and Exchange Commission held that the applicant derived a material part of its income from Southwestern Light & Power Company and that it was not predominantly a public utility company.

Legislative reports, said the commission, make it clear that Congress was using the phrase "material part" in the sense of an "appreciable part" in the enactment of § 3(a)(1). These words were said to be relative terms, and in determining the application of this standard of § 3(a)(1) the commission believed

factors other than mere percentages must be taken into consideration. It was said:

> Thus, for example, a given amount of income, small in its percentage, might be of little consequences to a company realizing large profits on a small capital investment and yet be "material" and "appreciable" to a company operating with a relatively small profit on a heavy investment and under the burden of a high ratio of fixed charges. We think that the standard "any material part of its income" connotes income the loss of which would be something more than *de minimis* to the company concerned.

The cash amount received from Southwestern was said to be appreciable and a material part of the income of the holding company. It was also noted that in determining whether an applicant derives a material part of its income from its public utility subsidiaries, all sources of income, including undistributed income of applicant's subsidiaries, should be considered. *Re Public Service Co. of Oklahoma (File No. 31-204, Release No. 2277).*

Service Denial for Meter Tampering

THE Pennsylvania commission, in dismissing a complaint against a power company for discontinuing electric service because of alleged meter tampering, said:

> In many decisions we have fully discussed the discriminatory situation created by meter tampering. We now reaffirm the principle enunciated in these decisions; namely, that meter tampering results in discrimination against consumers whose meters are operated without interference, and that a public utility is justified in discontinuance of service, or other action under its tariff, to prevent such discrimination where the evidence of tampering is established.

Kersten v. Duquesne Light Co. (Complaint Docket No. 13317).

Corporate Simplification Provisions of Holding Company Act Sustained

THE Federal District Court for the southern district of New York upheld the validity of § 11 of the Holding Company Act in a proceeding in which it granted an application by the Securities and Exchange Commission for an order to enforce and carry out a plan for corporate simplification. The court said that while no one appeared in opposition to the application, the court could not and would not ignore its responsibility to pass upon the objections which had been suggested by counsel who appeared and then withdrew from the proceeding.

The company was held to be engaged in interstate commerce through the instrumentality of its subsidiaries, although it had been suggested that § 11 of the act was not an exercise of the congressional power over interstate commerce, in that the test of application was not whether the holding company was engaged in or affected interstate commerce but rested solely on the test of whether it was a holding company. The court pointed out that § 11 does not apply to all holding companies but is expressly limited in its application to registered holding companies, and that registration is not required except in the case of companies engaged in certain specified types of transactions in interstate commerce.

The court sustained the power of Congress to foster, protect, and control interstate commerce with appropriate regard to the welfare of those who are immediately concerned as well as the public at large, and to promote its growth and insure its safety. Suggestions that in providing a means of corporate simplification the act was arbitrary and capricious; that the proposed plan was not within § 11(b)(2) of the act; that con-

tractual rights of shareholders were impaired; that the act infringed upon the powers of the state; and that § 11 is spoliative and confiscatory were all rejected.

Reliance had been placed by objectors on Burco, Inc. *v.* Whitworth (1936) 81 F(2d) 721, 14 PUR(NS) 495, but the court stated in regard to this case:

> That case arose upon an application for instructions by a trustee appointed under § 77B of the Bankruptcy Act, 11 USCA § 207. The debtor was a holding company as defined by the act and the question was whether the trustee should comply with the registration provisions of §§ 4(a) and 5. The court held that those sections were unconstitutional and directed the trustee to disregard them. That decision has been clearly overruled by the later determination of the Supreme Court in the Electric Bond and Share Co. Case (1938) 303 US 419, 82 L ed 936, 58 S Ct 678, 115 ALR 105, that §§ 4(a) and 5 are constitutional. The court in the Burco Case, however, unlike the Supreme Court in the Electric Bond and Share Co. Case, gave expression to opinions concerning sections of the act other than those in issue. This, of course, is sheer *obiter*. In view of the fact that the Burco Case has been overruled as to the matter decided, little weight can be given to its *dicta*.

Re Community Power & Light Co. 33 F Supp 901.

Utility Not Required to File Rates For Consideration by City

THE Pennsylvania commission, after terminating its investigation of rates of a water utility, received a petition by a borough for reconsideration. The petition sought an order requiring the water company to file a new schedule of rates for fire protection in order to permit the borough to ascertain whether "it wishes to enter into a new contract for fire protection." The petition was dismissed.

The tariff of the water company, it was pointed out, contained a schedule of rates for fire protection. The record did not disclose the rates to be unreasonable. Furthermore, the petition did not allege that the rates were unreasonable in themselves, but stated that the borough was not in a position to pay the rates.

It was the opinion of the commission that the issues raised should not be determined in that proceeding and did not require reconsideration of the termination order.

The issues might more properly be made the subject of negotiations or be raised in a separate proceeding directed solely to determination of a proper solution for the fire protection problem. *Pennsylvania Public Utility Commission v. Penelec Water Co. (Complaint Docket No. 11571).*

Separate Meters for Rented Apartments

THE rule that separate meters may be required for separate installations was applied by the Missouri commission in the case of an owner of rented duplex properties, each containing two residential apartments. A demand by the electric company that the landlord install separate electric meters for each duplex heating plant motor was upheld.

Each of the apartments had its own individual electric service meter. The electric service required by each tenant was delivered and metered to him on a bill rendered to the tenant. Each tenant paid the charges for such service. The landlord, however, furnished heat as part of the rental service to all the apartments, and in doing so operated heating plants consisting of a hot water boiler located in the basement of each of the duplexes, or boilers heated by gas delivered through a single gas line and metered through a

master meter located in the basement of the landlord's apartment. Describing the situation further, the commission said:

> As a part of the equipment incidental to the operation of the heating units, the complainant states he has installed in the water line of each boiler a small circulating pump operated by a one-eighth horsepower motor, thermostatically controlled, which cuts in and out whenever required to regulate temperatures, which in turn automatically operate the motor as required for the heating of the buildings. He claims these motors are operated by a single electric circuit that carries the energy from one electric meter located in the basement of the complainant's apartment. This meter also serves the electric equipment located in the complainant's apartment.

The company's requirement was that a meter be installed to measure the energy furnished for the operation of each of these motors and that the landlord pay a demand charge on each meter. The service furnished in connection with heating was said to approach the commercial classification, although the service taken in each apartment and paid for by the tenant and the service taken by the landlord in his own apartment would be classified as residential.

It was said to be common knowledge that in some apartment buildings, where all the apartments are in one building, the service for the operation of the heating plant is taken through one meter, but in the present case five buildings located on adjoining real estate were cumulated under one ownership. Such an arrangement, said the commission, does not justify the violation of common practice on the part of the utility in furnishing the service. If the five buildings were owned by five different parties, it would not be permissible at all to allow the energy to be taken cumulatively through one meter. To require the utility to furnish the service as the landlord desired, in the opinion of the commission, would create a preferential condition. *Fear v. Kansas City Power & Light Co. (Case No. 9855).*

Telephone Company Justified in Denying Service Believed to Be for Illegal Purpose

An injunction to restrain a telephone company from discontinuing service to a subscriber engaged in the business of disseminating race track news was denied by the Federal District Court for the eastern district of New Orleans, upon a finding that the company was justified in denying service. The court found that the company believed that the equipment furnished to the complaining subscriber was actually being used for illegal purposes and against the public policy of both the United States of America and the state of Louisiana.

The subscriber asserted that he published a newspaper disseminating sports news, and in that connection he rendered a daily service to his subscribers by giving free and up-to-date last-minute news. He maintained 94 telephones in one building in New Orleans and 29 telephones in another. As stated by the court:

> The greater number of these phones had all been subscribed for by him, under fictitious names, such as Merlin Scrimp Company, Houma Linen Company, Pelton Termite Company, Baxter Flour Company, Poydras Iron Works, J. T. Tile Company, Morgan Soap Company, Acme Housecleaning Company, etc. Twenty-one of the 94 in the Carondelet building, and 15 of the 29 in the Wells-Fargo building, stood in the names of Frank Mulkern, or A. Lupo, respectively, both of whom had been also employed by the Nationwide News Service and both of whom continued in plaintiff's employ when the said Nationwide News Service discontinued business and was succeeded by plaintiff.

As to an attack upon the constitutionality of a Louisiana statute making it unlawful to distribute race track information, the court held that the company could rely upon every possible legal presumption in favor of the statute's validity in determining whether it could justify discontinuance of service.

The company could also consider the

fact that if such act were unconstitutional, then a former act relating to the same subject still subsisted. The company could also consider other statutes, and it could consider a warning that it had received from the United States Attorney General's office relative to the probability of the company being made to face criminal proceedings if phone service were not discontinued. *Fogarty v. Southern Bell Telephone & Telegraph Co.*

Other Important Rulings

THE North Dakota commission ruled that a shipment arriving in one state from another state and coming to rest loses its interstate character prior to its transshipment, if any. *Re Culp et al. (Case Nos. S-684, M-806).*

The Pennsylvania commission, in dismissing petitions by the Pennsylvania Public Ownership League and by a municipality for rescission or amendment of an order terminating a rate proceeding, ruled that the city alone among the petitioners had technical standing to request rescission or amendment, since it was the only party to the proceeding when the termination order was issued. The commission also expressed doubt as to the good faith of the league with relation to proceedings before the commission. *Pennsylvania Public Utility Commission v. Duquesne Light Co. (Complaint Docket No. 11405).*

The Michigan commission authorized a telephone company to amend its regulations to provide that when service is requested to be furnished at locations where the equipment may be subject to loss or damage through theft, vandalism, or other reasons involving the responsibility of the customer, the customer may be required to make a suitable deposit to cover the responsibility. *Re Michigan Bell Telephone Co. (T-252-40.21).*

The Michigan commission authorized a telephone company to amend its tariff to provide that when cord nonmultiple switchboard equipment is used in connection with mechanical switching equipment, the applicable rate will be that generally used with the mechanical system. *Re Michigan Bell Telephone Co. (T-252-40.24).*

The Michigan commission authorized foreign exchange telephone service where numerous requests for such service had been made, but provided that this should be furnished to applicants only if they continued as subscribers of some class of service at the same location where the foreign exchange service was proposed to be installed. *Re Home Telephone Co. of Grass Lake (T-150-40.1).*

The Pennsylvania commission held that it does not have jurisdiction to approve the acquisition of a utility plant by a municipality for service solely within the city's corporate limits, where the public utility opposes such acquisition. *Re Borough of Pottstown (Application Docket No. 34577).*

The Kansas City Court of Appeals of Missouri refused to disturb an order of the commission authorizing the operation of coördinated bus and rail service over a route paralleling the railroad track of the transportation company's parent company. The court followed the rule that such an order is lawful and reasonable upon its face and that the only question for the court is whether such an order is reasonable and lawful in the light of the facts and circumstances properly in evidence before the commission. *State ex rel. Shepherd et al. v. Public Service Commission of Missouri et al. 142 SW (2d) 346.*

NOTE.—The cases above referred to, where decided by courts or regulatory commissions, will be published in full or abstracted in *Public Utilities Reports.*

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Public Utilities Reports

COMPRISING THE DECISIONS, ORDERS, AND RECOMMENDATIONS OF COURTS AND COMMISSIONS

VOLUME 35 PUR(NS) NUMBER 1

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PUBLIC UTILITIES REPORTS

FEDERAL POWER COMMISSION

Re Iroquois Gas Corporation

[Docket No. G-111.]

Gas, § 11 — Exportation — Approval.

A natural gas corporation may be permitted, pursuant to § 3 of the Natural Gas Act, 15 USCA § 717b, to export natural gas to a foreign company after securing a Presidential Permit upon a showing that the gas is not needed to supply the requirements of its customers in the state, that exportation does not impair the ability of the corporation to render adequate service to such customers, and that exportation will not be inconsistent with the public interest.

[August 8, 1940.]

APPLICATION *for authority to export natural gas from the state of New York to the province of Ontario, Canada; granted subject to terms and conditions.*

By the COMMISSION: Upon application filed October 12, 1938, by the Iroquois Gas Corporation, a corporation organized and existing under the laws of the state of New York and having its principal office in the city of Buffalo, New York, for an order of the Commission authorizing the exportation of natural gas from the state of New York to the province of Ontario, Canada, pursuant to § 3 of the Natural Gas Act, 15 USCA § 717b; and

It appearing to the Commission that:

(a) On December 14, 1938, a public hearing was had on the said application;

(b) On December 20, 1938, temporary authorization for the exportation of natural gas from the United States to the province of Ontario,

Canada, was granted applicant for a period of ninety days from and after the said date, which provided, however, that said authorization should automatically terminate prior to the expiration of said ninety days if and when during said period the Commission should adopt an order upon consideration of the full record;

(c) The temporary authorization granted on December 20, 1938, was further extended to and including August 25, 1940;

(d) On July 13, 1939, by Executive Order No. 8202, issued by the President of the United States, there was delegated to the Commission the authority to receive applications for Presidential Permits for the construction, operation, maintenance, or connection at the border of the United States of facilities for the exportation of natural gas to a foreign country, and to make recommendations to the President with respect to the issuance of such permits;

(e) Pursuant to the said executive order, Iroquois Gas Corporation filed its application for a Presidential Permit, accompanied by supporting material, which application and supporting material, after having been examined by the Commission, was submitted to the Secretary of State and to the Secretary of War, for recommendation thereon;

(f) Upon favorable recommendation from the Secretary of State and the Secretary of War, and after due consideration by the Commission, the said application of Iroquois Gas Corporation was submitted by the Commission to the President, with recommendation that the same be approved and that a Presidential Permit be granted;

(g) On July 9, 1940, the President approved the said application and a Presidential Permit for the Iroquois Gas Corporation for the operation, maintenance, and connection at the international boundary of the said facilities for the exportation of natural gas from the United States to the province of Ontario, Canada;

(h) On July 26, 1940, the Iroquois Gas Corporation, acting through its board of directors, accepted the terms and conditions of the said Presidential Permit;

(i) On August 8, 1940, the said Presidential Permit as approved and accepted was issued to the Iroquois Gas Corporation;

The Commission, having considered the full record herein, including the said application for export and attachments thereto, the testimony adduced, and the exhibits introduced in evidence at the said hearing, *finds* that:

(1) The gas now being exported is not needed to supply the requirements of applicant's consumers in the state of New York;

(2) The exportation of such gas does not impair the ability of applicant to render adequate service to its consumers in the state of New York;

(3) The exportation of natural gas by the applicant herein will not be inconsistent with the public interest;

The Commission *orders* that:

(A) Said applicant, Iroquois Gas Corporation, be and it is authorized to export natural gas from the United States to the province of Ontario, Canada, in accordance with the terms

and conditions as set forth in the application and attachments herein; subject, however, to the authority reserved in the Commission:

(1) To require from the applicant such reports with respect to the exportation of natural gas as the Commission may deem necessary from time to time;

(2) To modify, from time to time, or to terminate, this authorization after opportunity for hearing;

(B) Transfer, or assignment of this authorization, by operation of law or otherwise, shall not be valid, and the authorization shall thereupon automatically terminate, unless this Commission shall approve such transfer or assignment prior to the effective date thereof;

(C) This authorization shall not deprive any state or state regulatory Commission of the exercise of the lawful authority vested in such state or state regulatory Commission over the applicant;

(D) This authorization shall not be construed as an acquiescence by the Commission in any valuation of property, rate schedules, or in any operating statements claimed or asserted herein by the applicant;

(E) This authorization shall terminate automatically upon the termination or expiration of the contract for exportation of natural gas, introduced in evidence herein as applicant's Exhibit No. 1; subject, however, to renewal of the authorization upon a finding by the Commission that such renewal is not inconsistent with the public interest;

(F) This authorization shall supersede the temporary authorization previously granted by the Commission and referred to in § (c) above.

FEDERAL POWER COMMISSION

Re Columbian Fuel Corporation

[Opinion No. 48, Docket No. G-143.]

Gas, § 2.1 — Jurisdiction of Federal Commission — Natural gas producing and gathering company.

A company whose only sales of natural gas in interstate commerce are made as an incident to, and immediately upon completion of, such company's production and gathering of natural gas, and which is not otherwise subject to the jurisdiction of the Federal Power Commission, is not subject to Commission regulation under the Natural Gas Act.

(Scott, Commissioner, dissents.)

[June 29, 1940.]

PROCEEDING *on order suspending changes in price of natural gas furnished by a producing and gathering company to a natural gas company; order vacated and case dismissed.*

APPEARANCES: Reid L. Carr, Harry J. Garrity, and W. C. Revercomb, for the Columbian Fuel Corporation; J. W. Jones, for the state of Kentucky and the Public Service Commission of Kentucky, amici curiae; W. Holt Woddell, for the state of West Virginia and the Public Service Commission of West Virginia, amici curiæ; John E. Benton and Benjamin H. B. Smart, for the National Association of Railroad and Utilities Commissioners, amicus curiae; Hiram M. Dow, for the Mid-Continent Oil and Gas Association, amicus curiae; Russell B. Brown, for the Independent Petroleum Association of America, amicus curiae; Richard J. Connor, Assistant General Counsel, and Edward H. Lange, Gregory Hankin, and W. Russell Gorman, for the Federal Power Commission.

By the COMMISSION: This is a proceeding under § 4(e) of the Natural Gas Act, 15 USCA § 717c (e). On October 31, 1939, we issued an order suspending changes in the price of natural gas furnished by the Columbian Fuel Corporation, hereinafter referred to as respondent, to the Warfield Natural Gas Company under a contract between the two companies made on November 18, 1931.

This contract originally provided that the price should be 12 cents per thousand cubic feet until November 1, 1932, 14 cents per thousand cubic feet from November 1, 1932, to November 1, 1935, and 15 cents per thousand cubic feet from the latter date until November 1, 1940. On November 15, 1934, these companies entered into a supplemental agreement reducing the rates to 11 cents per thousand cubic feet from that day until November 1, 1935, to 12 cents per thousand cubic feet from the latter date up to November 1, 1939, at which time the 15-cent price established by the original agreement was to be restored.

On October 17, 1938, the respondent filed the aforesaid contract and supplement with the Commission, and on September 20, 1939, the respondent filed a statement to the effect that in accordance with these agreements the increased rates and charges would become effective on November 1, 1939. It was this proposed increase that was suspended by our order of October 31, 1939, which also required that during the period of suspension the rates and charges then being collected and received by the respondent from the Warfield Company be continued in effect.

The matter was set for hearing before an examiner. During the hearing the respondent filed a motion to dismiss the proceeding on various grounds which, for the present purposes, may be summarized as follows: (1) Assuming that respondent's sales to the Warfield Company were sales in interstate commerce, the rate provisions in the Natural Gas Act are not applicable to the respondent, which is a producer and gatherer of natural gas; (2) the respondent's sales to the Warfield Company are not sales in interstate commerce and, therefore, the respondent is not a natural gas company within the meaning of the act and, therefore, the provisions of the act do not apply to the respondent; and (3) the contract rate effective November 1, 1939, was not a "new

schedule" within the meaning of § 4 (e) of the act, *supra,* and, therefore, the suspension order of October 31, 1939, should be vacated. Evidence was presented on the jurisdictional questions.

At the conclusion of these hearings, briefs were filed by the respondent, by counsel for the Commission and by the Public Service Commission of Kentucky, the state of West Virginia, the Public Service Commission of West Virginia, the National Association of Railroad and Utilities Commissioners, the Mid-Continent Oil and Gas Association, and the Independent Petroleum Association of America as amici curiae, who also participated in the oral argument before the full Commission. The questions were extensively briefed and argued.

Findings

The facts developed in the record show that:

(1) The Columbian Fuel Corporation is a Delaware Corporation organized in 1936 as successor to the Piney Oil and Gas Company, both being hereinafter referred to as respondent. Respondent's principal office is in Prestonburg, Kentucky, and it is authorized to do business in various states, including the state of Kentucky.

(2) Respondent produces and gathers natural gas in several counties in Kentucky upon its properties consisting of fourteen areas aggregating in excess of 14,000 acres on which are located approximately 138 producing gas wells.

(3) The gas produced by the respondent is delivered to the Warfield Natural Gas Company, hereinafter referred to as Warfield, at the termini of respondent's gathering lines, except that a portion of the gas is delivered from a compressor station owned by respondent and located on Bull creek in Floyd county adjacent to some of the producing areas. All of the deliveries are made within the state of Kentucky, and upon delivery made respondent has no ownership in or control over the gas.

(4) Warfield is a corporation engaged in the business of transporting and selling natural gas. As part of its transmission system, Warfield has a compressor station near Maytown, Kentucky, at a point known as Warco, also a transmission pipe line extending from this compressor station in a northerly direction to a point on the Kentucky-West Virginia state line. At this point the Warfield pipe line connects with a transmission line extending into West Virginia, owned by an affiliated corporation, United Fuel Gas Company, hereinafter referred to as United.

(5) Warfield's transmission system also connects with a compressor station and the Eastern Seaboard line owned by the Atlantic Seaboard Corporation, hereinafter referred to as Seaboard. Seaboard is a corporation engaged in the business of transporting natural gas. Its pipe line commences at the aforesaid compressor station and extends in an easterly direction into the state of West Virginia, thence northerly across the states of West Virginia and Maryland.

(6) A part of the natural gas sold by respondent to Warfield is resold by the latter within the state of Ken-

tucky. A large portion of the gas sold by respondent to Warfield is resold by the latter to United and is transmitted into the state of West Virginia. The gas is then resold by United for commercial and industrial uses without the state of Kentucky. From 40 to 50 per cent of the gas sold by respondent to Warfield is delivered by the latter to the Seaboard line from which the gas is sold and delivered in large quantities to local distributing companies in West Virginia and in Maryland.

(7) There is a regular unbroken and uninterrupted transmission and a continuous flow of the natural gas sold by respondent to Warfield from the areas in Kentucky to destinations in other states and in the District of Columbia. Such transportation is intended to be and is being carried on as an established course of business.

The Question of Jurisdiction

The important question before the Commission in this case is whether the Natural Gas Act confers on the Federal Power Commission jurisdiction over a company engaged solely in the production and gathering of natural gas when such company is also engaged in the sale of such gas in interstate commerce. In attempting to reach a reasonable answer the Commission has examined (a) the language of the act as a whole, without other evidences of congressional intent, (b) the report of the congressional committees recommending the legislation, and (c) the expressions of individual Congressmen in the course of the debate on the bill.

The results of its examinations may be summarized under the several heads as follows:

Language of the Act

The act, § 1(a), 15 USCA § 717 (a) asserts that Federal regulation in matters relating to the transportation of natural gas and the sale thereof in interstate commerce is necessary in the public interest. This, taken alone, would indicate a broad determination to protect ultimate consumers of natural gas by closing the gap in regulation resulting from the lack of state jurisdiction over sales in interstate commerce.

The act further, § 1(b), states that its provisions apply to the sales in interstate commerce of natural gas for resale for ultimate public consumption and to natural gas companies engaged in such sale. A "natural gas company" is defined for the purposes of the act, § 2(6), 15 USCA § 717a (6), as a person engaged in the transportation of natural gas in interstate commerce, or the sale in interstate commerce of such gas for resale.

So far, the language of the act would clearly make a company engaged exclusively in the production and gathering of natural gas, which also sold gas in interstate commerce for resale, such as the respondent, a natural gas company subject to the jurisdiction of the Commission.

The act, however, contains qualifying language, § 1(b), *supra*, stating that the provisions of the act shall not apply "to the production or gathering of natural gas." This negative language is relatively broad in scope and may be properly distinguished from the narrower and more explicit language of other statutes limiting the

exemption from jurisdiction to the facilities used in the performance of some function.

Clearly, if the language above quoted is interpreted as excluding from Commission jurisdiction, and hence from Federal regulation, all companies whose sales of natural gas are made at the well mouth or at the end of gathering lines, there will be important initial sales of natural gas in interstate commerce which will remain outside the field of regulation altogether. Such unregulated sales would, then, represent important elements in the costs which must be taken into account in the regulation of all subsequent sales subject to Federal or state jurisdiction.

Consideration should also be given to the fact that, if the jurisdiction of the Commission under the Natural Gas Act is assumed to extend to all companies whose natural gas business is concerned exclusively with production or gathering, the Commission's regulatory authority would not be limited to their charges for sales of natural gas in interstate commerce but would extend to other aspects of the function of producing and gathering. Thus, under § 7, 15 USCA § 717f, the Commission could order such a company to extend or improve its transportation (gathering) facilities. The company, further, could not abandon its facilities without Commission approval, nor could it extend its facilities for transportation of natural gas to or sell natural gas in a market already served by a "natural gas company" without obtaining a certificate of convenience and necessity from the Commission.

Further investigation of the act shows that the language can by no means be interpreted as excluding all production and gathering.

Section 9, 15 USCA § 717h, for instance, authorizing the Commission to determine rates of depreciation and amortization of the several classes of property of each natural gas company, includes property used and useful in *"production,"* as well as property used and useful in the transportation or sale of natural gas.

Similarly, § 10, 15 USCA § 717i, enables the Commission to require reports including, among other things, "cost of facilities, cost of maintenance and operation of facilities for the production, transportation, or sale of natural gas," etc. And § 14, 15 USCA § 717m, enables the Commission to determine the adequacy or inadequacy of the gas reserves held or controlled by any natural gas company, or by anyone on its behalf.

From this review of the language of the act, without reference to interpretative statements, it appears clear that Congress did not intend to exclude or exempt all production and gathering from the regulatory authority of the Commission.

Report of Congressional Committee

Further light is thrown upon the intent of Congress by the report of Committee on Interstate and Foreign Commerce of the House of Representatives, in reporting out the bill. The committee states that the bill, if enacted, would for the first time provide for the regulation of natural gas companies transporting and selling natural gas in interstate commerce. It states further that the bill is so drawn as to complement and in no manner

usurp state regulatory authority. It continues:

"Your committee believes that this legislation is highly desirable to fill the gap in regulation that now exists by reason of the lack of authority of state Commissions."

Taken by itself, this language would clearly imply an intent to provide for regulation of all interstate wholesale sales affecting the final price paid by consumers for natural gas.

Commenting on the language of the bill providing that the provisions of the act should not apply "to any other transportation or sale of natural gas or to the local distribution of natural gas or to the facilities used for such distribution or to the production or gathering of natural gas," the committee said:

"The quoted words are not actually necessary, as the matters specified therein could not be said fairly to be covered by the language affirmatively stating the jurisdiction of the Commission, but similar language was used in previous bills, and, rather than invite the contention, however unfounded, that the elimination of the negative language would broaden the scope of the act, the committee has included it in this bill."

The previous bill was clearly designed to limit Federal regulation to the interstate transmission pipe-line companies and the wholesale transactions at the end of such lines. It is, therefore, a fair assumption that, in the intention of the committee, the language of the bill which became the Natural Gas Act limited the jurisdiction of the Commission to such transactions, even if the exemption of "production or gathering" were omitted altogether.

Language in that part of the committee's report dealing with the limitation to state regulation over natural gas sales suggests an explanation tending to support this conclusion. After commenting on state jurisdiction over intrastate sales and local sales to consumers, the committee said:

"However, in the case of sales for resale, or so-called wholesale sales, in interstate commerce (for example, sales of producing companies to distributing companies) the legal situation is different. Such transactions have been considered to be not local in character and, even in the absence of congressional action, not subject to state regulation. . . . The basic purpose of the present legislation is to occupy this field in which the Supreme Court has held that the states may not act."

The illustration of sales of a producing company to a distributing company, used in the above quotation, would seem to imply that Congress had in mind a much simpler setup of the industry than that which actually prevails. This simpler picture would be based on the assumption that in most instances a single interstate wholesale transaction intervened between the production of the gas and its resale to ultimate consumers. The object was to apply regulation to this "gateway" transaction.

Reëxamination of the language of the act reveals it as fitting more closely this conception of the setup of the natural gas industry. Where a big transporting company owned its own wells and gathering lines, there

would be but one wholesale gateway transaction to bring under Federal regulation and all provisions of the act involving production and gathering would apply. Where a similar company went to a field and bargained with a number of small competing producers and gatherers, the latter were not considered "natural gas companies" and the gateway sale still remained the subject of regulatory interest.

Congressional Debates

Finally, recourse to the debates of Congress sustains the conclusion that the uncertainty in the language of the act stems from the oversimplified conception of the natural gas industry which prevailed at the time when it was enacted.

Congressman Lea, chairman of the committee, reiterated that "the object of this bill is to supply regulation in those cases where the state Commission has no power to regulate."

Senator Wheeler stated that the bill did "not attempt to regulate the producers of natural gas; only those who sell it wholesale in interstate commerce."

Congressman Wolverton said: "It can be readily seen that the price to be paid by the consumers depends largely upon *the price the local distributing company or municipality has been required to pay to the outside producer.* Therefore, if the consumer is to be given the benefit of purchasing gas at fair and reasonable rates *there must be some regulation of the producing company engaged in the interstate transportation and sale of gas.* It is, therefore, the purpose of this legislation *to close the gap* now existing between Federal and state regulation and confer upon the Federal Power Commission the right, duty, and authority to exercise such regulatory power in fixing a fair and reasonable rate for gas that is a part of interstate commerce. . . ." (Italics supplied.)

Congressman Crosser asserted that the regulation of natural gas rates by either cities or state Public Service Commissions was almost hopeless "because the people of such cities are required to pay to the producing company in another state a price generally unreasonable because there is no constitutional authority in the city councils nor the Public Utility Commissions of the state in which the cities are located which enables them to order the sale, at a reasonable rate, of gas produced in another state."

Clearly, Congress had in mind closing the gap in regulation of the natural gas industry, but did not have in mind a setup in which the gap was composed of a series of interstate wholesale sales beginning with the end of the gathering lines of some dominant producer and ending with the gateway transactions which those who enacted the act had in mind.

Conclusion

There is no need to pass upon the question whether the language of the act may not be open to perfectly reasonable differences of interpretation as to the limits of the Commission's jurisdiction. Clearly, Congress thought it was closing the gap in regulation of the natural gas industry by providing Federal Power Commission regulation of companies whose main function was to transport natural gas

through interstate pipe lines and sell gas so transported at city gates for resale to ultimate consumers.

The companies to be subjected to regulation were conceived of as "pipe-line" companies, and it was assumed that production and gathering would enter the field of regulation only to the extent that the "pipe-line" companies, either directly or through affiliates, controlled the production or gathering of the gas so transported.

In making a choice between the broader and the narrower interpretation of its jurisdiction under the Natural Gas Act, in so far as the present respondent is concerned, the Commission is influenced by the above consideration. This consideration is reinforced by the fact that a determination in favor of the broader conception of its jurisdiction would lead the Commission into attempts to deal with the complicated interrelationship between the natural gas industry and the oil industry. To make regulation of producers and gatherers effective under these circumstances would require statutory authority of much wider scope and machinery exceeding that at the disposal of the Commission with its present limited appropriation.

A further consideration is relevant to a reasonable decision in the matter. If, as intimated by Representative Lea, the justification for regulation lies in the monopolistic character of the wholesale rates charged for natural gas, the necessity for regulating the price at the well mouth or at the end of gathering lines exists only to the extent that such prices are fixed on a monopolistic basis or by interests with sufficient control in a given field to weaken the force of competition. The record in the present case does not show such control.

We conclude, therefore, that it was not the intention of Congress to subject to regulation under the Natural Gas Act all persons whose only sales of natural gas in interstate commerce, as in this case, are made as an incident to and immediately upon completion of such person's production and gathering of said natural gas and who are not otherwise subject to the jurisdiction of this Commission.

Further experience with the administration of the Natural Gas Act may reveal that the initial sales of large quantities of natural gas which eventually flows in interstate commerce are by producing or gathering companies which, through affiliation, field agreement, or dominant position in a field, are able to maintain an unreasonable price despite the appearance of competition. Under such circumstances the Commission will decide whether it can assume jurisdiction over arbitrary field prices under the present act or should report the facts to Congress with recommendations for such broadening of the act and provision of additional machinery as may appear necessary to close this gap in effective regulation of the natural gas industry.

An order will be entered vacating our order of suspension and dismissing the case. [Order omitted.]

SCOTT, Commissioner, dissenting: Out of the welter of discusion concerning this matter and the application of the pertinent provisions of the Natural Gas Act to the problem before us, has come the conclusion of

the majority that this proceeding should be dismissed for want of jurisdiction. To me, this conclusion is regrettable. From it, I am constrained to dissent.

With an earnest desire to reach a correct conclusion upon the record, I firmly believe that the respondent corporation is a "natural gas company" within the meaning of the Natural Gas Act and that the rates and charges here involved are clearly within the regulatory jurisdiction of this Commission.

I am fully cognizant of the fact that the jurisdiction and powers of the Commission are delegated to it by Congress; I would not advocate extension of its jurisdiction beyond the clear congressional intention. In determining whether the Commission has jurisdiction, sound reason is persuasive of that interpretation which will not render the act unenforceable in practice for the accomplishment of the objectives intended by Congress.

What objective did Congress intend to achieve by its enactment of the Natural Gas Act? Did not the Natural Gas Act of 1938 have its genesis in the widespread demand that the Federal government should occupy the field from which the states were precluded? Such obviously was intended. After pointing out that there was no intention in enacting the legislation to disturb the states in their exercise of jurisdiction over intrastate sales of natural gas or other sales thereof considered local in character, the congressional committees that had under consideration the bill which was finally encated as the Natural Gas Act, among other things, specifically stated in their reports:

"However, in the case of sales for resale, or so-called wholesale sales, in interstate commerce (*for example, sales by producing companies to distributing companies*) the legal situation is different. Such transactions have been considered to be not local in character and, even in the absence of congressional action, not subject to state regulation. (See State ex rel. Barrett v. Kansas Nat. Gas Co. 265 US 298, 68 L ed 1027, PUR1924E 78, 44 S Ct 544, and Rhode Island Pub. Utilities Commission v. Attleboro Steam & Electric Co. 273 US 83, 71 L ed 549, PUR1927B 348, 47 S Ct 294.) *The basic purpose of the present legislation is to occupy this field in which the Supreme Court has held that the states may not act.*" (Italics supplied.)[1]

Congress affirmatively states the scope of the Natural Gas Act in § 1 (b), 15 USCA § 717(b) thereof:

"The provisions of this act shall apply to the transportation of natural gas in interstate commerce, *to the sale in interstate commerce of natural gas for resale for ultimate public consumption for domestic, commercial, industrial, or any other use,* and *to natural gas companies engaged in such* transportation or *sale.* . . ." (Italics supplied.)

A "natural gas company" is defined in § 2(6), 15 USCA § 717a (6) as meaning:

"a person engaged in the transportation of natural gas in interstate commerce, or *the sale in interstate commerce of such gas for resale."* (Italics supplied.)

[1] H. Rpt. No. 709, 75th Congress, 1st Session (April 28, 1937) pp. 1, 2; S. Rpt. No. 1162, 75th Congress, 1st Session (August 11, 1937) pp. 1, 2.

After affirmatively stating the matters to which the act is to apply, Congress specifies, in the latter part of § 1(b), *supra,* that *the provisions* of the Natural Gas Act:

". . . *shall not apply* to any other transportation or sale of natural gas or to the local distribution of natural gas or to the facilities used for such distribution or *to the production or gathering of natural gas.*"

The instant proceeding was initiated by the Commission on its own motion under § 4 of the Natural Gas Act, and involves the suspension of the proposed increased rates and charges of the Columbian Fuel Corporation for natural gas produced and gathered by it and sold in interstate commerce to Warfield Natural Gas Company for resale for ultimate public consumption. Such facts are clear. Admittedly, there is continuous movement of the natural gas so sold from the point of sale and delivery by respondent within the state of origin until it arrives at its ultimate destination outside the borders thereof.

Respondent contends, and the majority, by its action in the instant case, in effect has found respondent not to be a "natural gas company" within the meaning of the act and that the rates and charges involved in this proceeding are without the Commission's jurisdiction. Nevertheless, it is admitted that there is, in fact, a sale of natural gas by respondent in interstate commerce for resale, but justification for refusal to take jurisdiction herein is predicated upon the negative language contained in § 1(b) of the act, *supra,* excluding the activities of "production or gathering."

The question squarely presented in this proceeding is whether respondent, admittedly engaged in the production and gathering of natural gas and making sales thereof in interstate commerce for resale for ultimate public consumption, is a "natural gas company" within the meaning of the act. Respondent asserts by reason of its production and gathering of gas, that the provisions of the Natural Gas Act are not applicable to it. In effect, it claims that since it produces and gathers natural gas, it is excluded from the application of the Natural Gas Act by the negative language of § 1(b) thereof, *even though it sells that gas in interstate commerce for resale.*

In the light of this contention, does not the question here for determination resolve itself into a consideration of *whether,* in *affirmatively making the provisions* of the Natural Gas Act *applicable* "to the transportation of natural gas in interstate commerce, *to the sale in interstate commerce of natural gas for resale for ultimate public consumption for domestic, commercial, industrial, or any other use, and to natural gas companies engaged in such* transportation or *sale,* . . ." (Italics supplied.)

Congress intended that the provisions should not apply if, in addition to doing the things enumerated above, *a person is also engaged in* "any other transportation or sale of natural gas or . . . the local distribution of natural gas . . . or . . . *the production or gathering of natural gas.*" (Italics supplied.)

In other words, is not disclaimer of jurisdiction in this proceeding a holding that the language of Congress exempting "the production or gathering of natural gas" from the provisions of

the act, in effect, the exemption of the respondent because it is a *producer* and a *gatherer* of natural gas even though in fact it makes sales thereof in interstate commerce for resale? I think such is the inevitable effect of the majority action.

The rationale of the majority opinion is refreshingly elusive. In one part it is stated: "The illustration of sales of a producing company to a distributing company," quoted from a committee report, "would seem to imply that Congress had in mind a much simpler setup of the industry than that which actually prevails." I cannot join the majority in indulging the assumption implied by this statement that Congress was so totally lacking in knowledge of the natural gas industry when it adopted the act. To do so would mean the acceptance of a phantom aloof from reality. I accept the language of the act finally enacted. Then, too, the majority appears to take sanctuary in its statement ". . . that it was not the intention of Congress to subject to regulation under the Natural Gas Act *all persons whose only sales of natural gas in interstate commerce,* as in this case, *are made as an incident to* and immediately upon completion of such person's *production and gathering* of said natural gas and who are not otherwise subject to the jurisdiction of this Commission." (Italics supplied.)

Does not this statement suggest that the achievement of the basic purpose of the legislation, viz.: to fill the gap wherein states may not act, is to be urged along toward the millennium? Neither the act nor its legislative history indicate that Congress intended that the foregoing construction be ascribed to the statute. The sale of natural gas in the instant proceeding is clearly interstate in character. Nowhere in the statute is there language indicating that any distinction is to be made between such sales. Moreover, in discussing the language of the act, it is stated by the majority:

". . . the language of the act would clearly make a company engaged *exclusively* in the production and gathering of natural gas, which also sold gas in interstate commerce for resale, such as the respondent, a natural gas company subject to the jurisdiction of the Commission.

"The act, however, contains qualifying language (§ 1(b)) stating . . . the provisions . . . shall not apply 'to the production or gathering of natural gas.'" (Italics supplied.)

It is to be noted that the word *"exclusively"* is added to the language of the statute. Such addition is without authority in the act. The foregoing statements of the majority, in my opinion, appear inconsistent and apparently ignore the language of the act that "production or gathering" *is to be exempted* but that the provisions of the act *shall apply "to the sale in interstate commerce of natural gas for resale . . . to natural gas companies engaged in such* transportation or *sale* . . ." (italics supplied) and the statutory definition of a "natural gas company." The act attempts no differentiation such as suggested by the majority. Whether the vendor making such sale in interstate commerce is "engaged exclusively in the production and gathering" or not makes no difference under the language of the act. It appears, therefore, that disclaiming ju-

risdiction in the instant proceeding is tantamount to holding that the sale of natural gas in interstate commerce is a part of production and gathering of such gas.

Obviously, the action of the majority ignores the distinction between producing, on the one hand, and commerce in the thing so produced, on the other hand, so lucidly made by the Supreme Court in the case of Carter v. Carter Coal Co. (1936) 298 US 238, 302, 80 L ed 1160, 56 S Ct 855. This decision was made two years prior to the enactment of the Natural Gas Act and may reasonably be assumed to have been within the knowledge of the Congress when it enacted the Natural Gas Act. In that decision the court stated unequivocally:

"In Oliver Iron Min. Co. v. Lord (1923) 262 US 172, 178, 67 L ed 929, 935, 43 S Ct 526, we said on the authority of numerous cited cases: 'Mining is not interstate commerce, but, like manufacturing, is a local business, subject to local regulation and taxation. . . . Its character in this regard is intrinsic, is not affected by the intended use or disposal of the product, is not controlled by contractual engagements, and persists even though the business be conducted in close connection with interstate commerce.'

"The same rule applies to the production of oil. 'Such production is essentially a mining operation, and therefore is not a part of interstate commerce, even though the product obtained is intended to be and in fact is immediately shipped in such commerce.' Champlin Refining Co. v. Corporation Commission (1932) 286 US 210, 235, 76 L ed 1062, 1078, 52 S Ct 559, 86 ALR 403. One who produces or manufactures a commodity, subsequently sold and shipped by him in interstate commerce, whether such sale and shipment were originally intended or not, has engaged in two distinct and separate activities. So far as he produces or manufactures a commodity, his business is purely local. *So far as he sells and ships, or contracts to sell and ship, the commodity to customers in another state, he engages in interstate commerce.* In respect of the former, he is subject only to regulation by the state; in respect of the latter, to regulation only by the Federal government. Utah Power & Light Co. v. Pfost (1932) 286 US 165, 182, 76 L ed 1038, 1047, 52 S Ct 548. Production is not commerce; but a step in preparation for commerce. Chassaniol v. Greenwood (1934) 291 US 584, 587, 78 L ed 1004, 1006, 54 S Ct 541.

"We have seen that the word 'commerce' is the equivalent of the phrase 'intercourse for the purpose of trade.' Plainly, the incidents leading up to and culminating in the mining of coal do not constitute such intercourse. The employment of men, the fixing of their wages, hours of labor, and working conditions, the bargaining in respect of these things—whether carried on separately or collectively—each and all constitute intercourse for the purposes of production, not of trade. The latter is a thing apart from the relation of employer and employee, which in all producing occupations is purely local in character. Extraction of coal from the mine is the aim and the completed result of local activities. Commerce in the coal mined is not brought into being by force of these

activities, but by negotiations, agreements and circumstances entirely apart for production. Mining brings the subject matter of commerce into existence. Commerce disposes of it." (Italics supplied.)

In the light of the foregoing statement by the Supreme Court, can it be said that the interstate sale of gas in the instant proceeding, by one producing and gathering natural gas, is either in fact or law a part of such production and gathering? I think not. The two are distinct and separate. The activity of "production" is local and intrastate in character, while the sale is interstate commerce and clearly within the ambit of Federal regulation. The term "production," in my opinion, does not have the connotation given it by the majority. Eminent engineers agree that the term indicates that phase of the oil or gas industry that deals with the physical activity of extracting oil or gas from the ground. Therefore, to conclude that its use in the context of the exemption clause in § 1(b) of the act, 15 USCA § 717(b), exempts producers and negatives the exercise of regulatory jurisdiction by us over an interstate sale of natural gas for resale, flies in the face of the rule announced by the Supreme Court in the Carter Coal Case, *supra,* accepted definitions, the explanatory statement of the congressional committees, and long-standing rules of statutory construction.

Respondent, in my opinion, by its sales of natural gas in interstate commerce for resale, is within the affirmative grant of jurisdiction delegated by the Congress. Notwithstanding, the majority holds that what is affirmatively so defined and included within the scope of the act is without the jurisdiction of the Commission. If engaging in such activities contained in the negative provisions of § 1(b) of the act, *supra,* is sufficient for holding the respondent without the jurisdiction of the Commission, it logically follows that a company likewise within the affirmative grant of jurisdiction or the definition of a "natural gas company," engaging in any other activity contained in the exclusionary provisions of § 1(b), *supra,* is beyond the Commission's jurisdiction.

A company engaged in the transportation of natural gas in interstate commerce, but also engaged in "local distribution of natural gas," apparently, should, in keeping with the action of the majority here, be outside the scope of the act. However, the contrary, in substance, was held by the Commission in Re East Ohio Gas Co. FPC Op. No. 37 (April 14, 1939), 28 PUR(NS) 129, 134. There, the Commission disposed of, properly, I believe, the contention of the East Ohio Gas Company that it was not a natural gas company because all its transportation activities were *"incident"* to its local distribution, in the following language (pp. 8–10):

"The East Ohio Gas Company asserts that it is not a natural gas company within the meaning of the Natural Gas Act. The company does not contest the fact that it is engaged in the transportation of natural gas in interstate commerce, but makes the rather novel contention that its 'public utility activities are confined to the local distribution of natural gas wholly within the state of Ohio and all of its transportation activities are wholly within the state of Ohio and incident

to such local distribution, to which business and activity it is specifically provided by § 1(b) of the Natural Gas Act that the provisions thereof shall not apply.' This contention appears to be directly contrary to a decision of the Supreme Court of the United States involving this very company. East Ohio Gas Co. v. Tax Commission (1931) 283 US 465, 470, 471, 75 L ed 1171, 51 S Ct 499, where the court held that its transportation of natural gas is interstate commerce, and that its local distribution of natural gas is intrastate commerce, and constitute separate functions.

. . . . . .

"The Natural Gas Act likewise draws a distinction between transportation of natural gas in interstate commerce and local distribution, and there is no provision therein which supports the company's contention that as transportation in interstate commerce is 'incident' to local distribution, the company is not subject to the Commission's jurisdiction under the Natural Gas Act."

Those opposing jurisdiction ask what was intended by the negative language excluding "production or gathering of natural gas." The exemption, it is asserted, was not designed to relieve persons engaged in such activities from regulation of matters not contained in the act in the first instance. If the contrary were intended, it is claimed, the exclusion would be illusionary and meaningless and the practical effect as if the limitation were not incorporated in the act. Thereupon, it is concluded that the exclusion was intended to exempt producers and gatherers like respondent.

Such conclusion appears strained and unreasonable in the light of the history of this legislation and, in particular, if consideration is given to the explanatory statement contained in the congressional committee reports accompanying the bill finally enacted as the Natural Gas Act. Moreover, such conclusion ignores the fact that production and gathering of natural gas may be carried on without engaging in any of the activities affirmatively specified as being within the scope of the act.[2]

The history of the act discloses that an attempt was made to include within the scope of the Public Utility Act of 1935 legislation regulating the natural gas industry. The provisions of that early proposal really attempted to regulate production of natural gas right down to the bottom of the well, so to speak.[3] The concern of the natural gas industry is reflected by comments made at the time by its representatives.[4] The committee, in reporting H. R. 6586, the bill later enacted as the Natural Gas Act, with respect to § 1(b), *supra,* thereof, stated:

"In view of the importance of § 1 (b), which states the scope of the act, it seems advisable to comment on certain provisions appearing therein. It will be noted that this subsection of the bill, after affirmatively stating the

[2] For example, production and gathering of gas for use of such producer and gatherer, such as manufacture of carbon black, or production and gathering for local distribution or sale in intrastate commerce.

[3] See § 310, Title III, entitled "Transmission and Sale of Natural Gas," H. R. 5423, 74th Congress, 1st Session (February 6, 1935), p. 153.

[4] For example, see presentation on behalf of Electric Bond and Share Co. to Committee on Interstate and Foreign Commerce of House of Representatives in public hearings on H. R. 5423, Part 3, pp. 2277, 2284.

matters to which the act is to apply, contains a provision specifying what the act is not to apply to, as follows: ". . . 'but shall not apply to any other transportation or sale of natural gas or to the local distribution of natural gas or to the facilities used for such distribution or to the production or gathering of natural gas.'

"The quoted words are not actually necessary, as the matters specified therein could not be said fairly to be covered by the language affirmatively stating the jurisdiction of the Commission, but similar language was in previous bills, and, rather than invite the contention, however, unfounded, that the elimination of the negative language would broaden the scope of the act, the committee has included it in this bill."[5]

In view of the provisions of the legislation as first proposed in 1935, the insertion of negative language similar to that contained in § 1(b), *supra,* excluding certain activities from the act certainly is understandable.

Little weight can be attached to respondent's citation of certain miscellaneous statements made in the congressional hearings and debates, for in United States v. St. Paul, M. & M. R. Co. (1918) 247 US 310, 318, 62 L ed 1130, 38 S Ct 525, the Supreme Court has said:

"It is not our purpose to relax the rule that debates in Congress are not appropriate or even reliable guides to the meaning of the language of an enactment. . . . But the reports of a committee, including the bill as introduced, changes made in the frame of the bill in the course of its passage, and statements made by the committee chairman in charge of it, stand upon a different footing, and may be resorted to under proper qualifications." (Cases cited.)

Review of the legislative history discloses no reliable guide posts indicating, I believe, intent by Congress that rates and charges for natural gas sold in interstate commerce for resale, by companies also engaged in "production or gathering of natural gas" were to be excluded from the Commission's jurisdiction. Such is clear, if reference is made to the committee reports accompanying the bill finally enacted as the Natural Gas Act.

There are those who contend that it would be burdensome to many small producers making sales in interstate commerce for resale and also to the Commission if the provisions of the act were to be applied to such sales. However, does not examination of the act indicate Congress has granted authority to prescribe by administrative rules and regulations reasonable classifications found necessary or appropriate to carry out the provisions of the act, excluding, for example, the so-called "small producers" from any arduous burdens of regulation? I think so.

In fact, already, in prescribing a Uniform System of Accounts under the act, we have, by our classification of persons or companies, *relieved from compliance therewith those having annual gas operating revenues of less than $25,000.* This alone would exclude, it appears from the information now filed with the Commission under the act, *more than 80 per*

[5] H. Rpt. No. 709, *supra,* p. 3; S. Rpt. No. 1162, *supra,* p. 3.

cent, in number, of the persons producing natural gas only and selling it for resale in interstate commerce.

Sales by respondent appear clearly to be subject to the jurisdiction of this Commission and, further, even in the absence of Federal legislation, would not be subject to regulation by a state Commission. See Rhode Island Pub. Utilities Commission v. Attleboro Steam & Electric Co. 273 US 83, 86, 71 L ed 549, PUR1927B 348, 47 S Ct 294; State ex rel. Barrett v. Kansas Nat. Gas Co. 265 US 298, 305, 308, 68 L ed 1027, PUR1924E 78, 44 S Ct 544; United States v. Rock Royal Co-operative (1939) 307 US 533, 568, 83 L ed 1446, 59 S Ct 993; Currin v. Wallace (1939) 306 US 1, 9, 10, 83 L ed 441, 59 S Ct 379; Kentucky Nat. Gas Corp. v. Kentucky Pub. Service Commission (1939) 28 F Supp 509, 30 PUR(NS) 249. The act—the provisions under which this proceeding arises—is remedial and, therefore, is entitled to receive that interpretation which reasonably accomplishes the great public purpose which it was enacted to subserve. New York, N. H. & H. R. Co. v. Interstate Commerce Commission (1906) 200 US 361, 391, 50 L ed 515, 26 S Ct 272; State ex rel. Sedalia v. Public Service Commission (1918) 275 Mo 201, PUR1919C 507, 509, 204 SW 497; McDonald v. Thompson (1938) 305 US 263, 266, 83 L ed 164, 27 PUR(NS) 31, 59 S Ct 176. To disclaim jurisdiction over the interstate sales by respondent, I believe, does violence to the successful accomplishment of the congressional intention that "the basic purpose of the present legislation is to occupy this field in which the Supreme Court has held that the states may not act."[6]

The practical consequences of the action of the majority in the instant proceeding cannot be overemphasized. I fear there will accrue from this action results substantially curtailing our ability effectively to regulate in the public interest interstate sales of natural gas for resale. Inasmuch as the rates at which "natural gas companies" can sell gas at city gates are largely determined by the prices they are required to pay for the same, it is obvious that the consuming public cannot be as well protected from any exploitation in the rates it is charged, unless there is an exercise of Federal authority under the Commerce Clause of the Constitution.

The rates charged for natural gas in interstate wholesale transactions being beyond the regulatory authority of the states, will not the practical result of the action of the majority in disclaiming jurisdiction over the rates of respondent be to create a hiatus in the regulation of matters declared by Congress to be necessary in the public interest? I think such is the inevitable result of the action of the majority.

I cannot help but feel that the majority opinion leaves adequate and effective regulation, in the public interest, of the sales of natural gas in interstate commerce for resale, hoped for by the consuming public and deemed essential by a Congress desiring to fill the gap in which the states may not act, suspended in limp and lifeless form from the yardarm of inaction.

[6] H. Rpt. No. 709, *supra,* p. 1; S. Rpt. No. 1162, *supra,* p. 1.

PENNSYLVANIA PUBLIC UTILITY COMMISSION

Re Manufacturers Light & Heat Company et al.

[Application Docket Nos. 59509–59512.]

Intercorporate relations, § 15 — Affiliated companies — Gas transmission contract.

1. A 15-year contract for the necessary transportation of natural gas by Pennsylvania companies for an affiliated company in New York purchasing its supply from another affiliate in West Virginia, subject to adjustments because of future regulatory action, was approved, but it was ordered that approval was not to be considered as approval of the charge for transportation provided for in the contract, p. 19.

Intercorporate relations, § 19 — Intercompany loans — Financing construction.

2. Proposed loans by a parent corporation to subsidiaries on nontransferable promissory notes bearing interest at 3 per cent were approved for the purpose of financing the construction of proposed facilities to transport natural gas under a contract with an affiliated company, p. 19.

Intercorporate relations, § 15 — Affiliated companies — Gas transmission contracts — Reasonableness of compensation.

Discussion of the necessity of investigating the reasonableness of compensation provided for in a contract between affiliated companies for the transportation of natural gas upon approval of the contract, p. 28.

Intercorporate relations, § 15 — Affiliated companies — Gas transmission contracts.

Discussion, in dissenting opinion, of economic and legal objections to the approval of a contract between affiliated companies relating to the transportation of natural gas and involving expansion of facilities, with a consideration of the question of overexpansion and regulatory complications, p. 29.

(BUCHANAN, Commissioner, concurs in separate opinion;
BEAMISH, Commissioner, dissents.)

[July 9, 1940.]

APPLICATION *for approval of a proposed contract for transportation of natural gas and for approval of proposed loans from a parent corporation for expansion of gas transmission facilities; granted.*

By the COMMISSION:

[1, 2] At A. 59509 the Manufacturers Light and Heat Company, Pennsylvania Fuel Supply Company, and Manufacturers Gas Company seek Commission approval of a contract dated May 9, 1940, with Home Gas Company, providing for trans-

portation of gas from a point at the West Virginia-Pennsylvania state line across Pennsylvania to a point near Bradford on the Pennsylvania-New York state line. At A. 59510, A. 59511, and A. 59512 each petitioner by separate application respectively seeks approval of a loan of money from their parent corporation, Columbia Gas and Electric Corporation, to finance construction of certain additional facilities in its territory necessary to carry out provisions of the contract. Petitioners and Home Gas Company, all being subsidiaries of Columbia Gas and Electric Corporation, are affiliates, and under Art. VII, § 702 of the Public Utility Law, the proposed contract and loans must be approved by the Commission before they may become effective.

Petitioners are chartered under the Pennsylvania Natural Gas Act of 1885, and are natural gas utilities with producing, transmission, and distribution facilities. Home Gas Company is a subsidiary of Columbia Gas and Electric Corporation, an affiliate of petitioners, and engaged in the transmission and sale of natural gas to companies distributing natural gas to domestic, commercial and small industrial consumers in the cities of Olean and Binghamton and other communities in the southern part of the state of New York. It is stated that a sudden emergency has occurred in the supply of natural gas heretofore available to Home Gas Company resulting from extraordinary depletion of the gas fields of Potter and Tioga counties in Pennsylvania and adjoining counties in New York and that because of this depletion it has become necessary for Home Gas Company for a long period of time to supplement its supply of gas from other sources.

It is further stated that United Fuel Gas Company, an affiliated company in West Virginia, is in a position to supply Home Gas Company with the quantity of natural gas required by it provided arrangements are made to transport the gas to the latter's pipe-line system. Home Gas Company has no facilities in Pennsylvania to effect the transportation of the gas from West Virginia to New York. However, petitioner's respective transmission systems are at the present time interconnected and by the construction of certain additional facilities will be able to effect transportation of the gas from United Fuel Gas Company to Home Gas Company. It is for these reasons the contract of May 9, 1940, was entered into and that contract is now before us for consideration as well as the proposed loans of money from Columbia Gas and Electric Corporation necessary to finance the construction of the additional facilities.

The agreement (A. 59509) provides that the Manufacturers Light and Heat Company will receive into its transmission system from United Fuel Gas Company, for account of Home Gas Company, an annual amount of 2,500,000 thousand cubic feet of gas, plus an additional amount of 4.33 per cent allowance for line loss, a total of 2,608,250 thousand cubic feet, at a point in Greene county near Majorsville on the West Virginia-Pennsylvania state line, and deliver a like quantity of gas into the pipe-line system of Pennsylvania Fuel Supply Company for account of Home Gas Company; that Pennsylvania Fuel

Supply Company will deliver a like quantity of gas into the pipe-line system of Manufacturers Gas Company for account of Home Gas Company; and that Manufacturers Gas Company will deliver a like quantity of gas into the pipe-line system of Home Gas Company at the Pennsylvania-New York state line near Bradford. These conditions are subject to the reasonable capacity of present or future facilities as to allowances for petitioners' domestic, commercial, and industrial consumer requirements, and no petitioner shall be obligated to receive deliveries in any month in excess of the maximum amount of gas Home Gas Company has the right to demand in such month nor more than Home Gas Company stands ready and willing to receive, nor shall any of the petitioners be obligated to deliver to any other party to the agreement more gas in any month than was received by it for the account of Home Gas Company, provided that any party may deliver in any month to any other party to the agreement for its own or Home Gas Company account such quantities of gas as the receiving party will receive. Petitioners shall have the privilege of purchasing from Home Gas Company at such times and in such amounts as may be agreed upon from time to time by the parties involved any portions of the gas petitioners stand obligated to redeliver.

Home Gas Company will cause United Fuel Gas Company to render a statement each month to the Manufacturers Light and Heat Company, showing the amount of gas delivered for the account of Home Gas Company during the preceding calendar month, and at the same time each of the other petitioners delivering gas under the proposed contract will render a like statement for a like period to the company receiving delivery of gas. The statement furnished to Home Gas Company by Manufacturers Gas Company as agent for petitioners involved shall also show the amount of gas purchased by Manufacturers Gas Company from Home Gas Company during the same period for which credit is to be given Home Gas Company against the maximum monthly and annual deliveries Home Gas Company may demand under the contract. The gas to be delivered by petitioners will be measured at measuring stations at the points of connections between their pipe-line systems and these stations will be maintained at the sole expense of the respective petitioners. The gas delivered by United Fuel Gas Company to the Manufacturers Light and Heat Company will be measured at Cedarville, some 90 miles south of West Virginia-Pennsylvania state line, but transported to the said state line through pipe line of United Fuel Gas Company. The basis of measurement for gas will be 10 ounces per square inch above an atmospheric pressure of 14.4 pounds per square inch, that is, 15.025 pounds per square inch absolute pressure, at a temperature of 60 degrees Fahrenheit.

The schedule for annual delivery of 2,500,000 thousand cubic feet of gas to Home Gas Company shall be in monthly proportions as follows:

January	12.5%	July	5.0%
February ...	11.0%	August	4.5%
March	11.5%	September ..	5.5%
April	9.0%	October	7.5%
May	6.0%	November ..	10.5%
June	5.0%	December ..	12.0%

Home Gas Company agrees to pay petitioners jointly each calendar year during the term of this agreement the minimum sum of $266,250, which shall cover the delivery of 2,500,000 thousand cubic feet of gas, and for any excess gas delivered at the rate of 10.65 cents per thousand cubic feet.

For any deficiencies in deliveries of gas during any month which Home Gas Company stands ready and willing to accept, and which United Fuel Gas Company may have delivered to the Manufacturers Light and Heat Company for the account of Home Gas Company, but is not delivered to Home Gas Company due to causes other than some force majeure, Home Gas Company shall receive a proportionate reduction in the monthly minimum. If such deliveries are actually made in a later period, not exceeding twelve months following such under-delivery, Home Gas Company shall pay petitioners for such under-deliveries at the rate of 5.325 cents per thousand cubic feet up to the amount of said under-deliveries.

It is to be understood that the price of 10.65 cents per thousand cubic feet is subject to any adjustment either up or down in accordance with any final decision in connection with any rate investigation, now or hereafter instituted by the Commission, or other regulatory body increasing or decreasing any element involved in the transmission costs of petitioners. It is further agreed that in the event of any increase or decrease in present taxes or assessments, or any new taxes or assessments hereafter imposed upon, or in respect to the natural gas transported and however designated, whether a tax upon or in respect to the transportation of gas, or the exchange of gas hereunder, or the proceeds of transportation or exchange payable by petitioners, the price of 10.65 cents per thousand cubic feet shall be increased or decreased in accordance with any increase or decrease in the item of taxes used in computing said price.

Manufacturers Gas Company is to act as agent for the petitioners, shall bill Home Gas Company in its name alone for all amounts delivered under the agreement, and that payment shall be divided among petitioners, as may be agreed upon later and in accordance with a supplemental agreement to be entered into prior to beginning delivery of gas under the proposed agreement.

For any gas purchased from Home Gas Company by Manufacturers Gas Company, the latter shall pay the same rate per thousand cubic feet as Home Gas Company pays United Fuel Gas Company (30 cents per thousand cubic feet), and in addition thereto the transmission charge of 10.65 cents per thousand cubic feet.

The heating value of gas to be received by the Manufacturers Light and Heat Company from United Fuel Gas Company will vary from 1,095 to 1,115 B.T.U. per cubic foot; that delivered by the Manufacturers Light and Heat Company to Pennsylvania Fuel Supply Company will vary from 1,055 to 1,073 B.T.U. per cubic foot, as will also that delivered by Pennsylvania Fuel Supply Company to the Manufacturers Gas Company and that delivered by Manufacturers Gas Company to Home Gas Company. Commission regulations (Circular No. 9-A) provide that the heating value

of natural gas shall not be below 800 B.T.U. per cubic foot.

Specific gravity of the gas to be received into the general transmission system of the Manufacturers Light and Heat Company from the United Fuel Gas Company will vary from 0.634 to 0.658; by Pennsylvania Fuel Supply Company from the Manufacturers Light and Heat Company will vary from 0.615 to 0.625, as will also that received by Manufacturers Gas Company from Pennsylvania Fuel Supply Company and by Home Gas Company from Manufacturers Gas Company.

The agreement is to remain in force for a period of fifteen years from the date of the first delivery of gas by Manufacturers Gas Company and from year to year thereafter until any party thereto gives to the other parties concerned six months' written notice of its desire to cancel it previous to the end of any contract year, but the agreement shall not become effective and the first delivery of gas shall not be made until the agreement shall be approved by the Commission, or other necessary regulatory body, nor shall the supplemental agreement between the three applicants become effective until such approval is secured. Deliveries of gas which have already been made by Manufacturers Gas Company to Home Gas Company in contemplation of the instant agreement are to be returned to Manufacturers Gas Company within one year after the date of first delivery under the proposed contract.

As set out above, Home Gas Company is to pay a minimum annual sum of $266,250 to the three petitioners which provides for the delivery of 2,500,000 thousand cubic feet of gas, and for all quantities in excess of that amount the payment is to be 10.65 cents per thousand cubic feet. The minimum charge is also at the rate of 10.65 cents per thousand cubic feet. This rate is arrived at by the petitioners by determining the average total cost, both operating and capital, of transmitting 1,000 cubic feet of gas through the transmission system of the following named companies. These companies include the three petitioners and five other companies which are affiliates and are termed by petitioners the "Pittsburgh Group": Manufacturers Light and Heat Company; Natural Gas Company of West Virginia; Greensboro Gas Company; Cumberland and Allegheny Gas Company; Manufacturers Gas Company; Fayette County Gas Company; Pennsylvania Fuel Supply Company; Gettysburg Gas Corporation.

During the year ended December 31, 1939, these eight companies delivered nearly 38,000,000 thousand cubic feet of gas from their transmission systems at a cost, both operating and capital, of over $4,000,000, an average of 10.67 cents per thousand cubic feet. The elements included in the cost are operation and maintenance of transmission systems, sales promotion, administrative and general expenses, and taxes applicable to transmission, retirements, and a 6 per cent return on the book value of the transmission system property. The following table shows the over-all figures for the "Pittsburgh Group" and for the three petitioners separately.

Year ended Dec. 31, 1939	Total Transmission Cost	M cu. ft. Delivered from Transmission System	Cents per M cu. ft.
Pittsburgh Group	$4,046,616.73	$37,941,112	10.67
Mfgs. L. and Ht. Co.	2,343,690.32	27,492,448	8.52
Mfgs. Gas Co.	218,711.59	1,693,866	12.91
Penna. Fuel Supply Co.	177,235.80	1,919,639	9.23

The cost of 10.67 cents per thousand cubic feet for the "Pittsburgh Group" varies from the 10.65 cents used in the instant contract due to a reclassification of accounts in the financial statements of the group, upon which the 10.65 cents was based, to the Uniform Classification of Accounts. The weighted average cost of transmission of gas of the three applicants is 8.79 cents per thousand cubic feet.

Home Gas Company is engaged in transportation and sale of gas to distributing companies in southeastern New York state, namely, Keystone Gas Company, furnishing service to Olean and other towns in the near vicinity, Binghamton Gas Works, furnishing service to Binghamton, Johnson City, and Endicott, and Rockland Gas Company and Rockland Light and Power Company, furnishing service to Port Jervis and near-by towns. The total served by these distributing companies approximates 52,000 consumers.

Home Gas Company's gas supply since 1930 has been obtained principally from Belmont Quadrangle Drilling Company, an independent producing company, producing gas principally from the Oriskany Sand in southern New York and northern Pennsylvania. It has delivered to Home Gas Company an average of 2,750,000,000 cubic feet a year with a peak daily delivery of 15,000,000 cubic feet and a minimum daily of 3,500,000 cubic feet. With the rapid depletion of all the Oriskany fields, gas from this area was practically exhausted in the fall of 1939. The gas reserves of the Belmont Quadrangle Drilling Company are now estimated at 6,000,000,000 cubic feet from which an average daily delivery of about 3,000,000 cubic feet can be made with a peak load delivery of about 6,000,000 cubic feet. Further attempts by the Belmont Company to increase the gas reserves during the last year resulted in drilling 13 dry wells and one small producer, and it is the opinion of that company that any future fields discovered in southern New York and northern Pennsylvania will be quite small and very limited in area. These fields have been depleted until a shortage of gas was experienced this last winter and the Belmont Company is unable to meet the requirements of Home Gas Company.

Based upon the consumption of gas during the last twelve months, Home Gas Company requires 2,670,000 thousand cubic feet annually to supply the regular market for domestic, commercial, and small industrial consumers. Connections are now available with pipe-line systems of New York State Natural Gas Corporation, Godfrey L. Cabot, and Manufacturers Gas Company, to augment the supply of gas delivered by the Belmont Quadrangle Drilling Company but it appears that after September 1, 1940, gas will be available only from the Belmont Quadrangle Drilling Compa-

ny and Manufacturers Gas Company and their available supply will be insufficient to meet the requirements of Home Gas Company. Having exhausted other probable means to secure an additional gas supply in that vicinity, Home Gas Company negotiated a contract to purchase gas from the United Fuel Gas Company, an affiliate and also a subsidiary of Columbia Gas and Electric Corporation, at 30 cents per thousand cubic feet. The record shows that if gas is not secured from United Fuel Gas Company before the coming winter, Home Gas Company will be out of gas and unable to meet its requirements.

Gas reserves of United Fuel Gas Company are estimated at 1,286,000,000 thousand cubic feet with a withdrawal of 80,000,000 thousand cubic feet annually, including the quantity to Home Gas Company, indicating life of present reserves of fifteen years. Also about 1,000,000 acres are held under lease for further development.

To effect delivery of gas to Home Gas Company, petitioners propose to use their present available facilities and to construct certain additional facilities. The new facilities and their estimated cost for each petitioner are as follows:

The Manufacturers Light and Heat Company		
12 miles of 16-inch transmission line	$253,953	
6 miles of 12-inch transmission line (Monaca Red. sta. to Ellwood City)	129,060	
1,050 hp. compressing sta. (Ellwood City)	117,600	
Dehydration plant (Ellwood City)	25,000	
Measuring sta. (Rimersburg)	11,050	
Total		$536,663
Pennsylvania Fuel Supply Company		
12 miles of 10-inch transmission line (Rimersburg comp. sta. to Truitsburg)	$122,442	
720 hp. comp. sta. (Rimersburg)	17,000	
Measuring sta. at Truitsburg	11,150	
Total		$150,592
Manufacturers Gas Company		
16 miles of 10-inch transmission line (Truitsburg to Iowa comp. sta.)	$163,178	
36 miles of 8-inch transmission line (Iowa comp. sta. to McKinley comp. sta.)	358,566	
35 miles of 8-inch transmission line (McKinley comp. sta. to New York state line)	330,420	
1,100 hp. compressors (Iowa station)	134,200	
Measuring station at New York state line	11,150	
Total		$997,514
Grand Total		$1,684,769

Bids taken from independent contractors indicate the additional facilities can be constructed for approximately $160,000 less than petitioners' estimate.

Revenue from transporting the gas, additional operating expenses and tax-

es, with the income for amortization and return on the cost of new facilities, are as follows:

	Mfgrs. Lt. and Heat Co.	Manuf. Gas Co.	Penna. Fuel Supply Co.	Total Three Companies
Revenue to be received	$112,579	$135,243	$18,428	$266,250
Additional operating exp. and taxes	45,104	43,055	4,532	92,691
Balance for amortization and return	$67,475	$92,188	$13,896	$173,559
Cost of new facilities	536,663	997,514	150,592	1,684,769
Per cent on cost of new facilities	12.5%	9.2%	9.2%	10.3%

With annual amortization charge of $93,136 as shown in application based on cost less salvage value of $1,397,041 over a 15-year period, which is the term of the contract, and corresponding additional operating expenses and taxes, the utilities calculate the balance for return at $80,423, which is about 4.8 per cent on the proposed additional investment.

However, these figures make little or no allowance for use and operation of present facilities, parts of which must be used in furnishinig the proposed transportation, nor for any allocation of general property or any expense in connection therewith.

Petitioners aver that their immediate and probable future cash requirements make it necessary to borrow the total amount of funds required to construct the additional facilities, and propose to borrow the money from the Columbia Gas and Electric Corporation on nontransferable promissory notes maturing in eleven months, which said corporation has agreed to lend the said money to petitioners at the rate of 3 per cent per year.

The Manufacturers Light and Heat Company (A. 59510) proposes to borrow enough money to pay for actual cost of construction and not to exceed the estimated cost of $536,663. Notes will be issued for $100,000 each as the money is required excepting the last one which will be sufficient to cover the remaining actual cost of construction. Only securities outstanding are 450,608 shares of common stock, of $50 par, totaling $22,530,400. The company has total assets of $63,095,492.08 and depreciated book cost of fixed capital of $30,756,077.56, all as of March 31, 1940.

Pennsylvania Fuel Supply Company (A. 59511) proposes to borrow money for actual cost of constructing new facilities not to exceed the estimated cost of $150,592. Notes will be issued for $25,000 each as the money is required, excepting the last one which will be sufficient to cover the remaining actual cost of construction. Only securities outstanding are 19,560 shares of common stock of $50 par, totaling $978,000. The company has total assets of $3,080,243.72 and depreciated book cost of fixed capital of $2,092,260.25, as of March 31, 1940.

Manufacturers Gas Company (A. 59512) proposes to borrow money for estimated constructing cost of $997,514 plus about 10 per cent, or $102,486, for any contingencies which may arise during construction, or a total of $1,100,000. Notes will be issued for $100,000 each as the money is required excepting the last one which will be for the remaining actual cost of construction. Only securities outstanding are 16,500 shares of com-

mon stock, of $100 par, totaling $1,650,000. The company has total assets of $5,161,887.93 and depreciated book cost of fixed capital of $2,437,702, as of March 31, 1940.

From close scrutiny it appears that under the terms of the proposed contract dated May 9, 1940, with Home Gas Company, and the third order below, the rights and interests of the three petitioners are amply protected and in turn the rights and interests of the patrons of the petitioners. It appears that the loan of money by petitioners from their parent for the purposes of financing the construction of the proposed facilities is proper and that the rate of interest is favorable to petitioners. From consideration of the foregoing the contract and proposed loans should be approved; therefore,

Now, to wit, July 9, 1940, it is *ordered:*

1. That the contract dated May 9, 1940, between Home Gas Company and the Manufacturers Light and Heat Company, Pennsylvania Fuel Supply Company, and Manufacturers Gas Company, approval for which is sought at A. 59509, be and is hereby approved.

2. That the loans of money by the Manufacturers Light and Heat Company, Pennsylvania Fuel Supply Company and Manufacturers Gas Company from Columbia Gas and Electric Corporation, as set out respectively in A. 59510, A. 59511, and A. 59512, as amended, be and are hereby approved.

3. That the approval of the said contract is not to be considered as approval of the charge of 10.65 cents per thousand cubic feet for transportation of gas provided for in the said contract.

BUCHANAN, Commissioner, concurring: The matters before us concern a proposed contract between the Manufacturers Light and Heat Company, Pennsylvania Fuel Supply Company, and Manufacturers Gas Company, affiliated natural gas utilities, and Home Gas Company, an affiliate, operating in New York state, providing for the transportation of gas from the West Virginia-Pennsylvania state line across Pennsylvania to a point near Bradford at the Pennsylvania-New York state line, and proposed loans to the Manufacturers Light and Heat Company, Pennsylvania Fuel Supply Company, and Manufacturers Gas Company from their parent corporation, Columbia Gas & Electric Corporation, to finance construction of proposed additional facilities.

Another matter, a contract between Home Gas Company and United Fuel Gas Company for purchase by Home from United of not less than 2,500,000 thousand cubic feet of natural gas at a price of 30 cents per thousand cubic feet, is not before us. Nevertheless, it is involved to the extent that the total consideration to be paid by Home Gas Company is 40.65 cents per thousand cubic feet to all companies, and the allocation of this amount is entirely within the control of Columbia Gas & Electric Corporation, the holding company.

The basis of the applications is an alleged shortage of natural gas in New York state, causing Home Gas Company to seek new supplies for immediate use. Because of this emergency, construction of new transmission fa-

cilities for the three Pennsylvania companies is immediately necessary: hence the necessity for borrowing money by the Pennsylvania companies from the parent, Columbia Gas & Electric Corporation. In this I am in complete agreement.

However, the contract between Home and the Pennsylvania companies differs somewhat from the applications for loans and construction of facilities. It relates to the price to be paid by Home to the three Pennsylvania companies for services rendered in transporting the gas from West Virginia to New York. The total consideration to be paid is $266,250 for transporting 2,500,000 thousand cubic feet of gas through all three companies, or at the rate of 10.65 cents per thousand cubic feet. Since the gas is to be intermingled with other gas used in purely Pennsylvania service in the lines of Manufacturers Light and Heat Company, thus affecting common carriage, a reasonable price should be paid to Manufacturers Light and Heat for such services rendered, including an allocation of operating, administrative, and general expenses so incurred, plus the usual return on the investment, taxes, and depreciation charges. The same applies to the new facilities to be constructed by all three companies.

At the hearing it was testified that the consideration of $266,250 for such services was based upon the average cost of transmitting gas throughout the Pittsburgh group and the Columbia system, namely 10.65 cents per thousand cubic feet. There was introduced in evidence Exhibit No. 3, showing the allocation of this amount among the three Pennsylvania operating companies covering the new facilities and also the item of $15,000 to compensate for the use of old facilities of Manufacturers Light and Heat Company. An examination of this exhibit shows that apparently the payment covers only a part of the costs properly applicable to the service to be rendered. An example would be failure to reimburse all three companies for a fair share of administrative and general expenses reasonably applicable to the service contemplated. Another is the arbitrary figure of $15,000 to be paid Manufacturers Light and Heat Company for use of present facilities in common with the normal activities of that company.

The additional gas to be delivered through Manufacturers Light and Heat Company lines represents an increase of 9 per cent over present deliveries. The cost of such transmission to Manufacturers Light and Heat in 1939 was $2,343,690. While it may be unreasonable to assume that 9 per cent of this amount should be paid to Manufacturers Light and Heat for the increased deliveries, certainly $15,000 appears inadequate compensation without more explanation than presently appears in the record. Inasmuch as only new facilities are to be used by Pennsylvania Fuel Supply and Manufacturers Gas Company, this last objection, of course, would not apply to those companies.

While the applications may have been submitted in different form, their legality as presented to us has been definitely determined. Therefore, the sole duty resting upon us is to ascertain positively that Pennsylvania consumers will not be burdened in the slightest degree with any of the costs

of the service rendered to Home Gas Company, the New York state corporation.

As previously stated, control over the allocation of price paid by Home Gas Company lies with the Columbia Gas & Electric Corporation because all companies involved are subsidiaries. Such control is subject to Commission approval in the case of the Pennsylvania companies involved. Also, the contract specifically states that such allocation is subject to Commission approval. To this end immediate hearings should be scheduled to develop these matters fully and specifically whether the rate of 10.65 cents per thousand cubic feet is compensatory and if not what rate should be paid.

Therefore, I concur with the majority, but believe the order should go further and direct immediate hearings be scheduled for the purpose of specifically meeting the objections herein set forth.

Dissenting Opinion

BEAMISH, Commissioner, dissenting: I dissent from the action of the majority in this matter on both economic and legal grounds.

The economic considerations are plainly before us in recent cases coming before this Commission. Overexpansions of the natural gas industry have worked and are working hardships to consumers and complicated difficulties in the matter of regulation.

The most recent case is that of the distribution of natural gas in the Williamsport area.

The Pennsylvania Power and Light Company now admits that it made an economic blunder when it attempted to serve that area with natural gas. The result was that the consumers have paid for eight years and seven months the highest natural gas rate in the United States. Natural gas in that area has been so high that it has not been used for house heating nor for industrial purposes. A rate case in which the city of Williamsport was a party complainant dragged along for eight years and seven months and has recently been terminated with the payment by the Pennsylvania Power and Light Company of $100,000 to the city of Williamsport to recompense it for part of its rate case expenses. The company has notified this Commission that it will abandon the transportation of natural gas in that area and will return to the use and distribution of artificial gas within a few months.

The application before us of the Manufacturers Light and Heat Company, the Pennsylvania Fuel Supply Company, and the Manufacturers Gas Company proposes to transport 2,500,000,000 cubic feet of natural gas from the United Fuel Gas Company's mains at Majorsville, West Virginia, a considerable distance below the West Virginia-Pennsylvania state line, thence across the state of Pennsylvania into New York state where it will deliver 2,500,000,000 cubic feet of natural gas to the Home Gas Company of New York state. The transportation of this body of natural gas is to be made through a new pipe line which will be financed by a loan from the Columbia Gas and Electric Corporation, the holding company owning or controlling the three companies participating in the new pipe-line construction. The collapse

of the Williamsport venture of the Pennsylvania Power and Light Company indicates what probably will happen to similar ventures in New York state which are removed at a much greater distance from the source of natural gas supply than is the Williamsport area. The costs of transportation of the West Virginia gas through the chartered territories of the three Pennsylvania companies will receive additional costs in New York state. The Home Gas Company is a wholesaling proposition. It in turn sells to local natural gas companies in New York state. When these several costs extending from the wells in West Virginia to the ultimate consumer in New York state are totaled the inevitable result will be a cost to the consumer which will make impossible the use of that gas for heating, commercial, or industrial purposes. It may be a total exceeding the stratospheric altitude of Williamsport.

The result will be, as I see it, that this expensive new pipe line will be cast back upon the three Pennsylvania companies and the entire cost will have to be assumed by the Pennsylvania ratepayers of the three Pennsylvania companies.

This is a case of overexpansion, a practice which the entire natural gas industry has developed and fostered.

This Commission has seen recently an effort by the Peoples Natural Gas Company to impose higher rates upon 150,000 domestic consumers residing in Western Pennsylvania. In that case the company pleaded that the supply of natural gas is decreasing and that the supply is growing daily more uncertain. These pleas do not agree with the theory of running new pipe lines across Pennsylvania into New York state to further deplete the West Virginia supply. It is not contended by anyone that this new pipe line is needed for consumption within the state of Pennsylvania. All possible demands are fully met by existing transportation systems. The net result, as I see it, will be to add heavy and useless expenditures to the rate bases of the three companies in question and ultimately to the burdens of the manufacturing, commercial, and domestic consumers of these companies.

The vice of overexpansion has bankrupted great corporations and whole communities in this country. It has destroyed whole railroad systems. Philadelphia with its unused subways and other evidences of unbridled extravagance, Pittsburgh and Wilkes-Barre with their rattletrap, antiquated, and community hampering transportation system, and the exploded empire of the Associated Gas and Electric system are examples of bubble blowing and fantastic overexpansion.

It has been pleaded in this matter that war industries in New York state and the communities generally within the area served by the Home Gas Company of New York need this new pipe line. If that be true, what about the war industries of New Jersey and the New York city area? What about the war industries of Connecticut, Massachusetts, and all New England? They manage to flourish without natural gas. Other fuels are available which I believe may be found at less cost in the Home Company's area than that proposed to be conveyed across Pennsylvania by the proposed new pipe line.

The legal objections to this proposition are quite as grave and substantial as the economic objections.

The Pennsylvania Act of May 29, 1885, P. L. 29, as amended by the Act of June 24, 1939, P. L. 869, 15 PS § 1981, provides:

"*A* natural gas company shall have the right to produce, mine, own, deal in, *transport,* store, and supply natural gas for either light, heat, or both, or other purposes; and have all the rights and privileges necessary or convenient therefor."

The matter before us concerns, not *a* natural gas company but three natural gas companies, to wit, the Manufacturers Light and Heat Company, Pennsylvania Fuel Supply Company, and Manufacturers Gas Company in proposed contractual relations with the Home Gas Company of New York.

The new pipe line that is to transport gas from West Virginia to New York state is proposed to be financed by the Columbia Gas and Electric Corporation and the three sections of pipe line involved in this complicated operation are to be linked so that in essence they shall become an integrated pipe line for this purpose. The arrangements by which the costs of construction that are to be apportioned and the costs of transporting the gas in question through the three links are so complicated that in my judgment it is impossible to make the segregations that would be necessary in rate cases. It is my judgment that instead of one application providing for one pipe line there should have been in this case three applications and separate contracts between the companies interchanging the gas.

The condition created by this application will be unprecedented in the natural gas industry. Regulation of the natural gas industry is already so complicated that Commissions have extreme difficulty in properly apportioning costs and revenues. The proposition before us increases these complications to an extent that will plague this Commission and other Commissions. If three companies are permitted to enter into complicated arrangements such as these, fifty companies may follow the bad example and natural gas may be piped from Texas into Philadelphia and New York city by complicated processes which no regulatory Commission can satisfactorily untangle.

The proposition as a whole, in my judgment, is half-baked, freighted with the danger of additional burdens to already overburdened Pennsylvania consumers of natural gas and is essentially invalid because it is outside the statutory limitations.

Counsel for the applicant admits that so far as he knew there is no precedent for such construction.

The Manufacturers Light and Heat Company furnishes natural gas in Pennsylvania in the counties of Allegheny, Beaver, Butler, Clarion, Greene, Lawrence, Mercer, Somerset, Venango, and Washington. The population served in these counties is 1,276,510 and the number of customers served is 117,048.

The Pennsylvania Fuel Supply Company serves the counties of Armstrong, Butler, Clarion, and Venango. The estimated population in this territory is 14,065. The number of customers served is 4,850.

The Manufacturers Gas Company serves the counties of Clarion, Elk,

Jefferson, McKean, and Warren with a total estimated population of 71,952. Its consumers in that territory number 5,975.

The total estimated cost of the proposed pipe line which will be assumed by these three companies is $1,684,769.

SECURITIES AND EXCHANGE COMMISSION

Re Reading Gas Company

[File No. 31-445, Release No. 2175.]

Intercorporate relations, § 19.21 — Status as subsidiary — Dormant company.

1. A gas company which has leased all of its property for ninety-nine years to a registered holding company owning 11.35 per cent of its outstanding stock may properly be declared not to be a subsidiary, under § 2 (a) (8) of the Holding Company Act, 15 USCA § 79b, of the registered holding company and its parent corporation, where the gas company's present business is inactive and dormant and there is no indication of the exercise or the power to exercise control or controlling influence over the management or policies of the gas company by the related companies, p. 34.

Intercorporate relations, § 19.21 — Status as subsidiary — Dormant company — Condition.

2. An order declaring a gas company, inactive and dormant by reason of a lease of its property, not to be a subsidiary of holding companies should contain the condition that applications for renewal of the order be made prior to any alteration in the terms of the lease, issuance of any securities other than notes maturing in less than a year, operation or acquisition by the gas company of any utility assets or securities of a public utility or holding company; and the further condition that application for renewal of the order be made immediately subsequent to any default in payment of any instalment of rent by the affiliated lessee for a period of thirty days, p. 34.

[July 13, 1940.]

APPLICATION *pursuant to § 2(a)(8) of the Holding Company Act, 15 USCA § 79b, for an order declaring a gas company not to be a subsidiary of certain registered holding companies; granted subject to conditions.*

APPEARANCES: Maurice C. Kaplan of the Public Utilities Division of the Commission; no appearance for Reading Gas Company.

By the COMMISSION: Reading Gas Company, a Pennsylvania corporation, has filed an application and amendments thereto with the Com-

mission pursuant to § 2 (a) (8) of the Public Utility Holding Company Act of 1935, 15 USCA § 79b (a) (8), for an order declaring it not to be a subsidiary company of Consumers Gas Company, the United Gas Improvement Company, or of the United Corporation.

A hearing on the application was duly held after appropriate notice. The Commission, after examining the record, makes the following findings:

Consumers Gas Company, a subsidiary of the United Gas Improvement Company, a registered holding company and a subsidiary of the United Corporation, also a registered holding company, owned, as of February 7, 1940, 11.35 per cent of the common stock of Reading Gas Company, which common stock constitutes Reading's only outstanding security. Under § 2 (a) (8) of the act, *supra,* therefore, Reading is a subsidiary of Consumers Gas Company, the United Gas Improvement Company, and the United Corporation, unless, upon application, the Commission finds, under the terms of § 2 (a) (8) of the act, *supra,* that:

"(i) the applicant is not controlled, directly or indirectly, by such holding company (either alone or pursuant to an arrangement or understanding with one or more other persons) either through one or more intermediary persons or by any means or device whatsoever, (ii) the applicant is not an intermediary company through which such control of another company is exercised, and (iii) the management or policies of the applicant are not subject to a controlling influence, directly or indirectly, by such holding company (either alone or pursuant to an arrangement or understanding with one or more other persons) so as to make it necessary or appropriate in the public interest or for the protection of investors or consumers that the applicant be subject to the obligations, duties, and liabilities imposed in this title upon subsidiary companies of holding companies."

Reading Gas Company, by an agreement dated November 19, 1885, leased all of its property, including gas mains, manufacturing plant, and franchises for ninety-nine years from November 1, 1885, to the Consumers Gas Company. The lease, which the applicant states has never been altered or amended since 1885, provides that Consumers shall pay to Reading $36,000 a year, plus $500 for office expense, the rental to be free and clear of all taxes, charges, and assessments upon either the capital stock of Reading, the dividends thereon, or the property rented. The lease provides that upon its expiration in 1985, Consumers is to return the property to Reading with all improvements, additions, and extensions without any compensation to be paid for them, or at its option, to purchase the entire property and franchises from Reading for $600,000. Consumers Gas Company operates the leased property and supplies the city of Reading, Pennsylvania, and vicinity with manufactured gas.

The record indicates that the only corporate activities of Reading are the receipt of its rental of $36,500 a year under its lease agreement with Consumers, the payment of approximate-

ly $500 yearly in salaries and expenses, and the disbursement of approximately $36,000 in dividends each year. The applicant states that it has not issued or retired any securities since at least 1920 and has paid dividends of $36,000 a year since at least 1920 with the exception of two years in which certain taxes on dividends were paid by Reading. It does not appear that Reading's corporate inactivity has been affected in any manner since Consumers' initial acquisition of Reading's common stock in 1935.

None of the officers or members of the board of managers of Reading are associated with or are officers or directors of either Consumers, the United Gas Improvement Company, or the United Corporation with the exception of Reading's secretary and treasurer, Carl H. Hoffman, a clerk in the employment of Consumers Gas Company. It appears that Hoffman's father was formerly secretary and treasurer of Reading Gas Company and, upon his retirement from active business in 1937, secured his son's appointment as his successor. All of Reading's officers and members of the board of managers reside in Reading and vicinity.

[1, 2] In view of the inactive and dormant character of Reading's present business, and the absence of any indication in the record of the exercise or the power to exercise control or controlling influence over the management or policies of the applicant by Consumers, the United Gas Improvement Company, or the United Corporation, the Commission is able to make the requisite findings under § 2 (a) (8), *supra*. Since Consumers, however, has a substantial stock interest in Reading which may prove sufficient for it at some future time to exercise control or controlling influence over Reading, it appears appropriate in the public interest to require as a condition to the entry of, and as a part of the Commission's order granting, this application that such order shall terminate unless:

(1) Application for renewal of this order is made within sixty days prior to any alteration in the terms of Reading's lease with Consumers Gas Company, the issuance of any securities by Reading other than notes maturing in less than one year, or the operation or acquisition by Reading of any utility assets or securities of a public utility or holding company; and

(2) Application for renewal of this order is made immediately subsequent to any default in payment of any instalment of rent by Consumers Gas Company for a period of thirty days after such rent is due and payable.

An appropriate order will issue.

By the Commission, Commissioner Healy being absent and not participating.

SECURITIES AND EXCHANGE COMMISSION

Re Columbia Gas & Electric Corporation et al.

[File No. 70-61, Release No. 2186.]

Intercorporate relations, § 18.1 — Affiliated companies — Security acquisition — Financing gas facilities.

1. Acquisition by a registered holding company of 3 per cent promissory notes of subsidiaries was approved, under § 10 (c) of the Holding Company Act, 15 USCA § 79j (c), where such acquisition would not alter the existing parent-subsidiary relationship, and proposed construction work to be financed by the proceeds of the securities would be of benefit to the operations of gas transmission companies in one state and would provide natural gas for consumers in an adjoining state, p. 40.

Security issues, § 13.2 — Exemption under Holding Company Act — Local financing.

2. The issuance of short-term notes by Pennsylvania natural gas corporations to finance the construction of additional facilities in order to provide for transportation of natural gas across the state for the benefit of an affiliate in New York, was held to satisfy the requirements of § 6 (b) of the Holding Company Act, 15 USCA § 79f (b), exempting securities solely for the purpose of financing the business of the issuing companies where approved by the state Commission, p. 40.

[July 19, 1940.]

APPLICATIONS *for exemption of the issue and sale to a parent corporation of short-term notes under § 6(a) and § 6(b) of the Holding Company Act, 15 USCA § 79f (a) (b), and applications by parent corporation pursuant to § 10, 15 USCA § 79j, for authority to acquire such notes from the subsidiaries in exchange for cash; applications granted subject to conditions.*

APPEARANCES: Maurice C. Kaplan, of the Public Utilities Division of the Commission; Cravath, de Gorsdorff, Swaine & Wood, by A. I. Henderson and T. M. Davis, for all the applicants; David E. Mitchell and Albert N. Calland, for the Manufacturers Light and Heat Company, Manufacturers Gas Company and Pennsylvania Fuel Supply Company.

By the COMMISSION: The Manufacturers Light and Heat Company, Manufacturers Gas Company, and Pennsylvania Fuel Supply Company, subsidiaries of Columbia Gas & Electric Corporation, a registered holding company and a subsidiary of the United Corporation, a registered holding company, have filed applications and amendments thereto with the

Commission pursuant to § 6 (b) of the Public Utility Holding Company Act of 1935, 15 USCA § 79f (b), for the exemption from the provisions of § 6 (a) of the issue and sale to Columbia Gas & Electric Corporation of eleven months' short-term notes in the maximum amounts of $536,663, $1,100,000, and $150,592, respectively. Columbia Gas & Electric Corporation has filed an application pursuant to § 10 to acquire such notes from these subsidiary companies in exchange for cash. The applications, as originally filed, provided for interest at 4½ per cent per annum. At the request of the Pennsylvania Public Utility Commission, the rate was reduced to 3 per cent and the applications were amended accordingly.

A hearing on the applications was duly held after appropriate notice. The Commission, after examining the record, makes the following findings:

The Manufacturers Light and Heat Company, Manufacturers Gas Company, and Pennsylvania Fuel Supply Company, Pennsylvania corporations, are engaged in the production, purchase, and distribution at wholesale and retail of natural gas in the state of Pennsylvania. Columbia owns all of the outstanding securities of the three companies with the exception of 126 shares of common stock of the Manufacturers Light and Heat Company, out of a total stock issue of 450,608 shares.

There are presently pending before this Commission, as well as before several state Commissions, applications relating to (a) a proposed merger and consolidation of the Manufacturers Light and Heat Company, Manufacturers Gas Company, Pennsylvania Fuel Supply Company, and Greensboro Gas Company into a new corporation to be called the Manufacturers Light and Heat Company and (b) the acquisition by the new company of the assets of four other subsidiaries of Columbia Gas & Electric Corporation. The result of these proposed transactions would be to combine into one company the eight companies now known as "the Pittsburgh Group" in the Columbia system. This program contemplates the refunding of the presently proposed eleven months' notes into 4½ per cent 30-year notes of the new Manufacturers Light and Heat Company.

The total estimated expenses to be incurred by all the applicants in connection with the proposed issue and acquisition of the short term notes aggregate $8,250, of which $2,000 will be paid to Columbia Engineering Corporation, and $1,750 to Cravath, de Gersdorff, Swaine & Wood for legal services.

The proceeds of the proposed note issues will be used to build certain additional facilities which will parallel and supplement existing facilities of these three companies in order that natural gas may be transported from the lines of United Fuel Gas Company in West Virginia to the lines of Home Gas Company, in New York state, which company supplies Binghamton Gas Works and the Keystone Gas Company, Inc., gas distributing companies in New York, with natural gas. All of these companies are subsidiary companies of Columbia. Home Gas Company has in the past obtained practically all of its natural gas requirements by purchase from independent companies. It is stated that

the gas fields in New York state and immediately adjacent areas in Pennsylvania are rapidly becoming exhausted and it is desirable that the New York companies obtain additional gas up to an estimated 2,500,000 thousand cubic feet a year from other sources. Home Gas Company is already connected with United Fuel Gas Company through the lines of the Manufacturers Light, Pennsylvania Fuel and Manufacturers Gas, but it is stated that it is necessary to enlarge the facilities of the three Pennsylvania companies in order to transport the required additional gas from West Virginia.

In the case of the Manufacturers Light, the proposed issuance of $536,663 of notes does not bulk large in its corporate picture. As of February 29, 1940, it had depreciated fixed assets of $30,897,186 and no debt, other than current liabilities, outstanding. It has outstanding $22,530,400 of common stock. As of February 29, 1940, it had "Surplus Prior to January 1, 1938" of $9,048,225 and "Earned Surplus Since December 31, 1937" of $718,804.[1]

Manufacturers Gas, proposing to borrow a maximum of $1,100,000, has depreciated fixed assets of $2,445,136. Manufacturers Gas has no presently outstanding debt other than current liabilities. As of February 29, 1940, it had outstanding common stock having an aggregate par value of $1,650,000, $764,201 of "Surplus Prior to January 1, 1938" and $98,247 of "Earned Surplus Since December 31, 1937." Its proposed note issue is approximately 45 per cent of existing depreciated property and 31 per cent of depreciated property after giving effect to the construction of the proposed facilities.

Pennsylvania Fuel Supply Company has depreciated fixed assets of $2,101,360. Its capitalization, as of February 29, 1940, includes $575,815 of 6 per cent open account loans due to Columbia and $978,000 of common stock. It had "Surplus Prior to January 1, 1938" of $661,698 and "Earned Surplus Since December 31, 1937" of $25,402. The proposed note issue of $150,592 will, together with already existing debt, represent approximately 34.6 per cent of existing depreciated property, and 32.1 per cent of depreciated property after giving effect to the construction of the proposed facilities.

At February 29, 1940, the Manufacturers Light's retirement reserve was 47.1 per cent of the total property account; Manufacturers Gas' reserve was 49.0 per cent of the total property account; and Pennsylvania Fuel's reserve was 24.2 per cent of the total property account.

The applicants are presently engaged in studies of the "original and/or historical cost" of their properties, to be based on complete physical inventories of such properties, in compliance with an order of the Pennsylvania Public Utility Commission. Although neither the inventories nor the cost studies themselves have been completed, the applicants have submitted estimates of the original cost of their properties (cost to the person first devoting the property to public service). It is es-

[1] As a result of Columbia's recent recapitalization, only "Earned Surplus Since December 31, 1937" of its subsidiaries is available to it as income. See Columbia Gas & E. Corp. (1939) Holding Company Act Release No. 1417, 28 PUR(NS) 476.

timated that the book value of the properties of the Manufacturers Light and Manufacturers Gas exceed their original cost by approximately $8,900,000 and $1,230,000, respectively, and that the original cost of the properties of Pennsylvania Fuel Supply Company exceed their book value by about $158,000. These figures, however, are conceded by the applicants to be "estimates in their entirety," no recent physical inventories of the properties having been available in arriving at such estimates.

Interest requirements on the proposed note issues appear to be adequately covered in the light of the past earnings records of the three issuing companies. The Manufacturers Light's net income for twelve months ending February 29, 1940, was $1,443,028 as compared with interest requirements of $16,100 on the proposed notes; Manufacturers Gas' net income for this period was $171,269 as compared with interest requirements on the proposed note issue of $33,000; and Pennsylvania Fuel Supply's net income for this period was $51,009 as compared with interest requirements on the proposed issue of $4,518.[2]

On May 1, 1940, the Manufacturers Light had cash on hand of $1,424,331. It is estimated by company officials that the minimum required cash working balance of the Manufacturers Light is $300,000. On the basis of a "cash forecast" for the balance of the year 1940, submitted by the company, it appears that the Manufacturers Light will, each month until November, 1940, have cash on hand in excess of $500,000 even after construction of all the proposed facilities and exclusive of the proposed borrowings. At November 30, 1940, it is

[2] In view of the fact that interest requirements on all of the proposed note issues appear amply covered, we will not consider the pro forma coverage based upon the contract which the three issuing companies have entered into with Home Gas Company. Under this contract Home is to pay such companies a minimum annual amount of $266,250 for the 2,500,000 thousand cubic feet of gas which such companies are required to transport to Home from the lines of United Fuel Gas Company. In addition, Home Gas Company has entered into a contract with the United Fuel Gas Company for the purchase of the gas to be transported by the three applicant Pennsylvania companies in the minimum amount of 2,608,250 thousand cubic feet per annum at a price of 30 cents per thousand cubic feet. The minimum annual amount of $266,250 is stated to be based on a charge per thousand cubic feet of 10.65 cents, which is stated to be the average transmission cost per thousand cubic feet of the companies comprising the Pittsburgh Group of the Columbia system, including the allowance for retirements and depletion set up by those companies, for the year ended December 31, 1939, as well as a return on the gross book value of these transmission properties. The minimum contract amount of $266,250 per year is stated to be sufficient to equal the total of $92,691 of additional operating expenses and taxes attributable to the proposed new facilities, $15,000 compensation for use of existing facilities, and a balance of $158,559 as "available for reserve and return on additional investment." It is proposed that the Manufacturers Light will receive $112,579, Manufacturers Gas, $135,243, and Pennsylvania Fuel Supply Company, $18,428, of the minimum annual payment by Home of $266,250. It is stated that Pennsylvania Public Utility Commission, the Federal Power Commission, and in some respects the Public Service Commission of the state of New York, have jurisdiction over the terms of the proposed contract between Home and the Pennsylvania companies, and it is stated that the Pennsylvania Commission has jurisdiction over the allocation of the proceeds of the contract between the three issuing companies.

While it is our opinion that this Commission has jurisdiction to proceed by order under § 12(f) of the act, 15 USCA § 79*l* (f) if it appears necessary or appropriate in the public interest to consider the fairness of such arrangements, the Commission at this time does not pass upon the terms of the proposed contract between Home and the Pennsylvania companies, or the proposed contract between Home and United Fuel Gas Company, or upon the fairness of the allocation among the Pennsylvania companies of the proposed transportation charges.

estimated that cash on hand after construction of the proposed facilities and exclusive of the proposed borrowings will be approximately $140,000. It was admitted by the treasurer of the Manufacturers Light that if the facts correspond to the present cash estimates of the company, there will be no necessity for the Manufacturers Light's borrowing any money from Columbia prior to November 1, 1940. In the case of Manufacturers Gas and Pennsylvania Fuel Supply Company, "cash forecasts" submitted indicate some immediate need for the proposed advances if the construction work is to be accomplished. The applicants have represented that funds will be borrowed from Columbia when and only if needed.

As noted heretofore, Columbia is advancing a maximum total of $1,787,255 to the three Pennsylvania companies. On a consolidated basis for the year ending February 29, 1940, the over-all fixed charges (bond interest and preferred dividends of subsidiaries, plus bond interest of Columbia) for the Columbia system were earned 2.16 times and the over-all system charges and preferred dividends of Columbia were earned 1.39 times, leaving 59-cent earnings per share for the common stock of Columbia. As of May 29, 1940, Columbia had cash on hand of $6,688,000. An official of Columbia testified that if these loans and certain other contemplated loans to other subsidiaries were consummated, Columbia might be required to borrow funds from banks for a comparatively short period of time in the latter part of this year.

Section 10 (c) of the act, 15 USCA § 79j (c), provides that the Commission shall not approve an acquisition of securities which is detrimental to the carrying out of the provisions of § 11 and shall not grant its approval unless the Commission finds that such acquisition will serve the public interest by tending toward the economical and efficient development of an integrated public system.

Although the primary purpose of the proposed construction program is to supply the New York companies with natural gas from the production areas of United Fuel Gas Company in West Virginia, it was testified that the Manufacturers Light, absent the New York situation, would have been required to increase its facilities for its own existing service requirements at a cost of approximately $278,000 out of its total proposed expenditures of $536,000. It was also testified that Manufacturers Gas, proposing to expend a maximum of $1,100,000, would, absent the New York situation, have been required to expend approximately $250,000, an expenditure now apparently substantially obviated. It is admitted that no other sums would have been required to be expended for the present service needs of the three applicant Pennsylvania companies. In the case of all three companies, however, it is stated that the proposed new construction and expenditures, though not essential to present operations except to the extent noted, will be of benefit in providing more adequate facilities for service to their own consumers.

The record indicates that the three Pennsylvania companies are operated jointly along divisional lines based on operating factors and not upon their respective corporate entities. The rec-

ord also indicates that the New York group of companies are similarly jointly operated among themselves but that there is no coördination of either management, personnel, or equipment between the Pennsylvania companies and the New York companies. It appears that the mere amplification of existing interconnections which will facilitate the obtaining of gas from the lines of the Pennsylvania companies will not substantially affect the question of whether the Pennsylvania and New York companies are parts of the same integrated system or are separate integrated systems themselves.

[1] In view of the fact that the acquisition by Columbia does not alter the already existing parent-subsidiary relationships, and since it appears that the proposed construction work will be of benefit to the operations of the three Pennsylvania companies and will provide natural gas for consumers in New York state, we are able to find that the requirements of § 10 (c), *supra,* are satisfied. Nothing in this opinion is to be construed as a finding as to whether the Pittsburgh or New York companies are parts of the same integrated public utility system, are separate integrated systems themselves, or as to whether Columbia may retain either or both of the two groups of companies under § 11 (b) (1), 15 USCA § 79k (b) (1).

[2] The issuance of the proposed short-term notes was authorized by order of the Pennsylvania Public Utility Commission dated July 9, 1940, 35 PUR(NS) —, Commissioner Buchanan concurring and Commissioner Beamish dissenting. In the light of our comments above, we find that the proposed issue and sale of securities "are solely for the purpose of financing the business" of the applicant Pennsylvania companies. We, therefore, find that the specific requirements of § 6 (b) of the act, 15 USCA § 79f (b), are satisfied.

Although the applicants estimate that the proposed construction work will involve cash expenditures of approximately $1,594,769, the applications request the Commission to approve a maximum of $1,787,255 of short-term notes. Officials of the Pennsylvania companies testified that only such sums will be borrowed as will be needed for the proposed construction program. This Commission's approval of the proposed note issues and acquisitions by Columbia will contain a condition that the borrowings from Columbia shall not exceed the amount of the cash outlays for the proposed construction program.

An order will issue, subject to the following terms and conditions:

(1) That the applicants file with this Commission a certificate of notification within ten days after each such borrowing from Columbia showing that the transactions have been effected in accordance with and under the circumstances represented by the applicants;

(2) That the proposed borrowings from Columbia not exceed the amounts of cash outlays for the proposed construction work;

(3) That when all expenses incurred in connection with the issue and sale and acquisition of the securities and the preparation and completion of the applications concerned with the present transactions shall be actually paid, the applicants shall file a de-

tailed statement of such expenses showing the names of persons or entities to whom such payments were made, the amounts of such payments, the accounts charged, and a detailed description of the services rendered for which such payments were made; and

(4) That the Commission's order approving the proposed applications terminate December 31, 1940.

By the Commission, Commissioners Healy and Henderson being absent and not participating.

FEDERAL POWER COMMISSION

Illinois Commerce Commission

v.

Natural Gas Pipeline Company of America et al.

[Opinion No. 49, Docket Nos. G-109, G-112.]

Rates, § 13.1 — Powers of Federal Commission — Contract service.

1. The Federal Power Commission has authority to regulate rates for natural gas supplied at wholesale under a contract with a gas distributing company, p. 46.

Rates, § 649 — Full hearing — Interim rate order — Direct and cross-examination.

2. A natural gas company, which has been accorded and has properly taken advantage of every opportunity to present all reasonably essential evidence and which has had full opportunity to present oral argument and file briefs in a rate proceeding, has such a full and fair hearing as is required to support an interim rate reduction order although the company has not yet been able to examine on redirect its own witnesses who have not yet been cross-examined; and it is not essential to a full hearing on a motion for such interim order that the company be permitted to cross-examine or rebut witnesses who have not yet been offered by opposing counsel, p. 47.

Rates, § 641 — Parties — State Commission.

3. The Illinois Commerce Commission is a "state Commission" as defined in § 2 (8) of the Natural Gas Act and, as such, is entitled to file a complaint against rates of a wholesale natural gas company and to make a request for an interim rate reduction order; and counsel for the Federal Power Commission is entitled to join in such motion, p. 48.

Rates, § 13 — Powers of Federal Commission — Interim reduction order.

4. The Federal Power Commission has authority under the Natural Gas Act to enter an interim rate reduction order, after a full and fair hearing upon the issue of a fair rate of return, when the movants for the order have accepted, for the purpose of the motion, the testimony of the natural

gas companies as to the highest present rate base figure, together with the companies' estimates of revenue and operating expenses and other essential factors, p. 49.

Valuation, § 90 — Accrued depreciation — Deduction from reproduction cost — Effect of using sinking-fund method.

5. No deduction from reproduction cost new should be made for depreciation when the sinking-fund method of amortizing the entire investment is used, p. 50.

Valuation, § 225 — Property included — Future capital expenditures.

6. Expenditures contemplated in the future for improvements which are not used and useful in the present and are to a certain extent conjectural should not be included in the rate base, although estimates of property additions in the immediate future should be taken into consideration, p. 50.

Valuation, § 331 — Going concern value — Unsupported claims.

7. An arbitrary claim for going concern value not supported by substantial evidence must be disallowed the amount where allowance is made in the rate base for more than an adequate amount to cover all elements of value, p. 50.

Depreciation, § 32 — Sinking-fund method.

8. The sinking-fund method of amortizing the producing and transmission property of a natural gas company was approved, p. 51.

Depreciation, § 14 — Basis — Investment.

9. The total investment, in contradistinction to claimed fair value, should be amortized, p. 51.

Depreciation, § 31 — Life of business.

10. The amortization period should be the total estimated life of a natural gas business rather than the remaining life, p. 51.

Depreciation, § 41 — Sinking-fund method — Interest rate.

11. An interest rate of 6½ per cent should be used in the sinking-fund formula for amortization where that is the return allowed in rate making, p. 51.

Return, § 101 — Wholesale natural gas company.

12. A wholesale natural gas company supplying service to a distributing utility was allowed a return of 6½ per cent, p. 52.

[July 23, 1940.]

MOTION *for interim rate reduction order in proceeding on complaint by Illinois Commission against wholesale natural gas rates and investigation on motion of Federal Power Commission; interim rate reduction order made.*

APPEARANCES: John E. Cassidy and Harry R. Booth, for the Illinois Commerce Commission; Joseph J. Hedrick, S. A. L. Morgan, D. H. Culton, and George P. Garver, for the Natural Gas Pipeline Company of America and Texoma Natural Gas Company; George Slaff and Daryal A. Myse, for the Federal Power Commission.

By the COMMISSION: The Illinois Commerce Commission, on September 23, 1938, filed a petition with this Commission alleging that the rates and charges for natural gas charged by the above-named defendants-respondents (operated as a single enterprise and so treated herein) were unjust and unreasonable and prayed that said companies be required to show cause why rates for natural gas sold by them in the state of Illinois should not be reduced and that an order be entered determining fair, just, and reasonable rates for the wholesale sale of natural gas sold by them. Copies of this complaint were duly served on defendants-respondents on October 14, 1938. On the same date this Commission, on its own motion, ordered an investigation to determine whether the rates of said companies were unjust and unreasonable and, if so, fix just and reasonable rates therefor. The rates in question have a substantial effect on the cost of gas to ultimate consumers in Chicago and the surrounding area, as the bulk of the natural gas sold by defendants-respondents is delivered to the Chicago District Pipeline Company, which, in turn, supplies all the natural gas used by utilities serving the area.

On November 16, 1938, the defendant-respondent companies filed their answer to the complaint. On April 14, 1939, this Commission entered an order consolidating the complaint case and the investigation for purposes of hearing. Thereafter, hearings were begun on May 8, 1939, and continued from time to time until October 6, 1939, during which a total of approximately 6,000 pages of testimony was taken. Fifty-seven witnesses appeared and testified for the defendants-respondents and offered in evidence 135 exhibits. On October 6, 1939, in response to a question by the trial examiner, counsel for the defendants-respondents stated of record that the companies had concluded direct testimony in support of their case. Thereafter, beginning on October 23, 1939, the witnesses of the companies who had testified on the specific subject of rate of return were cross-examined by counsel for the two Commissions for a period of twelve days and testimony of two witnesses on the subject of rate of return was then presented by counsel to this Commission and testimony of two witnesses on the same subject was offered of record by counsel for the Illinois Commerce Commission.

At the conclusion of the direct testimony on November 7, 1939, counsel to both Commissions joined in filing a written motion for an interim order reducing the rates and charges of the defendant-respondent companies. Copies of said motion were duly served upon defendants-respondents. At that point in the proceedings the hearings had extended over fifty-five days, approximately 8,000 pages of testimony had been taken, and, in addition to the witnesses and exhibits heretofore mentioned as being submitted on behalf of the companies, six witnesses had testified and approximately forty-five exhibits had been introduced of record by the Illinois Commerce Commission and the staff of this Commission.

Subsequent to the service of the motion for an interim order reducing rates upon defendant-respondent companies, hearings were held beginning November 27, 1939, and extending

through December 12, 1939, during which period of time counsel for defendants-respondents cross-examined at length the witnesses of both Commissions who had testified on the subject of rate of return and in addition there was presented redirect and rebuttal testimony by said companies.

On December 18, 1939, after notice upon all interested parties, oral argument on the motion for an interim order was held before the Commission sitting en banc. This argument occupied a full day and was participated in at length by counsel representing the defendants-respondents, the Illinois Commerce Commission, and this Commission. Thereafter, briefs were filed by counsel representing all parties interested in the proceedings.

On December 19, 1939, we entered an order reconvening these proceedings for hearing to be commenced on January 8, 1940, so that the defendant-respondent companies might have further opportunity to present additional rebuttal testimony dealing with the issue of a proper rate of return and also to afford them opportunity to cross-examine one of the Commission witnesses who had previously given redirect testimony. The order fixing this hearing also granted defendant-respondent companies twenty days after the conclusion thereof within which to file briefs. Hearings were held on January 8, 9, and 10, 1940, at which time defendant-respondent companies presented of record additional rebuttal and redirect testimony. Although briefs were due to be filed on January 30, 1940, counsel for said companies requested a 30-day extension of time within which to file their briefs and by order of this Commission, dated January 23, 1940, an extension of time for the filing of defendants-respondents briefs was given to February 15, 1940.

It is not the purpose of this memorandum opinion to deal exhaustively with every minute question involved in these proceedings. Suffice it to say that this matter is presently before us on the joint motion of counsel to this Commission and the Illinois Commerce Commission filed November 7, 1939, for an immediate interim order fixing just and reasonable rates for the interstate sale of natural gas for resale made by defendants-respondents. The record now before us is over 10,000 pages in length and over 200 exhibits have been introduced therein.

The motion does not set out specifically the amount of reduction which is requested. It does, however, allege that a fair rate of return for the defendant-respondent companies is not more than 6 to 6½ per cent. It also sets out alleged net earnings of the companies on various bases which exceed a 6 per cent return by from approximately $3,250,000 to approximately $4,110,000 and which exceed a return of 6½ per cent by from $2,870,000 to approximately $3,770,000. The brief of the Illinois Commerce Commission requests an order reducing rates by not less than $3,500,000. The brief of counsel to this Commission requests that rates be reduced at least by an amount of from $3,370,000 to $3,725,000.

The motion for an interim order alleges that the evidence before the Commission now clearly establishes that the present rates of the defendant-respondent companies are unjust and

unreasonable and it is prayed that an immediate order be entered fixing just and reasonable rates. The defendants-respondents have filed a plea to the jurisdiction of the Commission in reply to the motion and a conditional answer thereto. We observe that all counsel have dealt exhaustively with the problems here involved and their briefs have been of material assistance to us.

Contentions of the defendant-respondent companies may be summarized as follows: (a) that the companies are private in character; that this Commission has no jurisdiction to regulate them; and that the Natural Gas Act, in so far as it attempts to give this Commission power to regulate the companies, is unconstitutional; (b) that the Commission has no jurisdiction under the Natural Gas Act to enter the interim order sought by the motion now pending before us until all the companies' witnesses have been cross-examined by counsel to the Illinois Commission and to this Commission and shall have been examined on redirect, and until this Commission and the Illinois Commission shall have presented all their witnesses and such witnesses have been cross-examined and the companies have offered rebuttal testimony; (c) that the Natural Gas Act confers upon this Commission no power or jurisdiction to enter the order sought; and (d) that the Commission is without authority to entertain the motion for an interim order since the Illinois Commission has no power to appear before this Commission, and counsel to this Commission have no power to make the motion since their action in doing so places the Commission in the position of "litigant or movant before itself sitting in its quasi judicial and quasi-legislative capacity," and any action taken by this Commission under such circumstances would violate the rights of defendants-respondents under the Fourteenth Amendment to the United States Constitution.

In addition, the defendants-respondents state that a finding of unreasonableness of rates at this time would violate the companies' rights under the Fourteenth Amendment, deny the conclusions contained in the factual allegations set out in the motion for interim order (however, there is no denial at any place of the facts themselves which are set out in the motion), and conclude that there is sharp conflict as to numerous issues of fact and law which cannot be determined at this time.

Counsel to this Commission ask that for the purpose of disposing of the motion for an interim order we accept the following:

(1) *The companies' estimate* of the life of their source of supply, to wit: Twenty-three years, 1932 to 1954, inclusive.

(2) *The companies' claim* that they will go out of business when this specific source of supply is exhausted.

(3) *The companies' book figures* for capital expenditures to date.

(4) *The companies' estimate* of the total gross capital expenditures over the period 1932 to 1954, inclusive.

(5) The highest present rate base figure for the companies' actual properties *testified to by the companies' witnesses.*

(6) *The companies' estimate* of revenue and operating expenses for

the next few years embracing the reasonably immediate future.

It is to be noted that counsel to this Commission state in their brief:

"With respect to each one of these basic matters, it is our position that evidence already in the record or yet to be introduced by Commission witnesses indicates facts much more favorable to the consumers of gas than the companies' evidence on these points. Nevertheless, as stated, we propose that the Commission accept the foregoing matters exactly as testified to by the companies' witnesses."

The motion presently before us poses the question: Can we, upon the record at this time, determine just and reasonable rates to be hereafter observed by defendant-respondent companies and fix the same by order?

The fundamental problem concerning our ability to fix just and reasonable rates upon the record now before us involves answers to these questions: (a) Has this Commission jurisdiction? (b) Have the constitutional requirements of due process been met, namely, has a full and fair hearing been afforded defendants-respondents? (c) Can we grant the relief prayed in the motion for an interim order at this interlocutory stage in the proceedings? (d) Assuming that (a), (b), and (c) are answered in the affirmative, from a substantive standpoint, upon the record before us, what are just and reasonable rates to be observed by defendants-respondents and to be fixed by order of this Commission?

The Commission Has Jurisdiction

[1] At the threshold of this discussion let us dispose of the claim of defendants-respondents that we are without authority to regulate the rates involved herein because their business is contractual and private in character. This contention is without merit. The companies are engaged in the interstate transmission and sale of natural gas for resale for ultimate public consumption. Congress has determined that such business is affected with a public interest. Moreover, in line with well-settled doctrine, we determined in our opinion in Re Mississippi River Fuel Corp. (1940) Docket No. G–150, 34 PUR(NS) 8, that contracts such as here involved must yield to regulation.

Section 4(a) of the Natural Gas Act, 15 USCA § 717c (a) provides:

"All rates and charges made, demanded, or received by any natural gas company for or in connection with the transportation or sale of natural gas subject to the jurisdiction of the Commission, and all rules and regulations affecting or pertaining to such rates or charges, shall be just and reasonable, and any such rate or charge that is not just and reasonable is hereby declared to be unlawful."

This section requires that rates and charges be just and reasonable and declares that *any such rates that are not just and reasonable are unlawful.* Section 5(a), 15 USCA § 717d (a) provides that:

"Whenever the Commission, *after a hearing . . . shall find that any rate* . . . or contract affecting such rate . . . *is unjust, unreasonable,* unduly discriminatory, or preferential, *the Commission shall determine the just and reasonable rate,* charge, classification, rule, regulation, practice, or contract *to be thereafter ob-*

served and in force, *and shall fix the same by order. . . .*" (Italics supplied.)

Due Process Has Been Afforded Companies

[2] On reviewing the entire proceedings before us, it is obvious that defendants-respondents have had a full and fair hearing.[1] The record discloses the companies have been accorded and have properly taken advantage of every opportunity to present all reasonably essential evidence that they desired with respect to every factor bearing on both the jurisdictional and substantive aspects of the problem before us. Moreover, they have had full opportunity to present oral argument and file briefs and in fact have made unmistakably clear their position with respect to every single issue involved in these proceedings.

It is quite apparent that the defendant-respondent companies have presented all evidence that they deemed pertinent upon the question of fairness and reasonableness of their rates. The record discloses that throughout the hearings the trial examiner was extremely liberal in permitting the introduction of evidence by the companies. Moreover, the companies have had a full opportunity, which they have exercised, to cross-examine all witnesses offered so far by counsel to either Commission and to offer all rebuttal testimony in explanation and clarification which they desired with respect to the testimony of such witnesses. They have had full opportunity, which they have exercised, to develop whatever facts they chose on redirect examination of such of their witnesses as have been cross-examined. However, they cannot be heard to complain that they have not yet been able to examine on redirect their own witnesses who have not yet been cross-examined, nor is it essential to a full hearing on the motion before us that they be permitted to cross-examine or rebut witnesses who have not yet been offered by counsel for the Commissions.

The record amply supports our conclusion that the defendant-respondent companies have had a full and fair hearing. We are satisfied that the constitutional requirements of due process have been met. Our view finds complete support in the New England Divisions Case (Akron, C. & Y. R. Co. v. United States) [1923] 261 US 184, 67 L ed 605, 43 S Ct 270, wherein various western carriers asserted that the action of the Interstate Commerce Commission was void in increasing the divisions or shares of the New England carriers in joint through

[1] It is interesting to note that prior to the commencement of proceedings before this Commission the companies involved herein were engaged in substantially similar proceedings before the Illinois Commerce Commission. Some time during 1936 and 1937 the Illinois Commission instituted an investigation against Chicago District Pipeline Company, which purchased substantially 90 per cent of the gas sold by the defendants-respondents. In February, 1938, the companies involved in this proceeding intervened in the proceeding before the Illinois Commerce Commission and participated in those proceedings although they did not offer affirmative evidence therein. During the pendency of the proceeding before the Illinois Commission, the Natural Gas Act was passed. Thereafter, the Chicago District Pipeline Company and the companies involved herein, then interveners in the proceeding before the Illinois Commission, moved that Commission to suspend its proceedings on the ground that under the Natural Gas Act the jurisdiction to pass upon, and if necessary, regulate the prices and charges for natural gas sold at wholesale by the companies became vested exclusively in the Federal Power Commission.

freight rates by 15 per cent and, correlatively, decreasing the amounts received from the joint rates by carriers operating west of the Hudson river.[2] One of the principal grounds on which the western carriers rested their claim that the action of the Interstate Commerce Commission was void was stated by the court, at pp. 199, 200 of 261 US as follows:

"It is asserted that the order directs a transfer of revenues of the western carriers to the New England carriers, pending a decision in the matter of divisions; that Congress has not granted authority to take such provisional action; and that, hence, the order is void. The argument is, that under § 15(6), the Commission may prescribe divisions only when, upon full hearing, it is of opinion that those existing are, or will be, unjust, unreasonable, or inequitable; that in such event it shall prescribe divisions which are just, reasonable, and equitable; and that the provisional character of the order demonstrates that the hearing has not been a full one. Whether a hearing was full, must be determined by the character of the hearing, not by that of the order entered thereon. A full hearing is one in which ample opportunity is afforded to all parties to make, by evidence and argument, a showing fairly adequate to establish the propriety or impropriety, from the standpoint of justice and law, of the step asked to be taken. The Commission recognized, and observed, these essentials of a full hearing."

The Supreme Court upheld completely the order of the Interstate Commerce Commission. Whether a full hearing was granted depended not on the order entered by the Commission but on the character of the hearing, the court, at pp. 200, 201 of 261 US stating:

"There was thus ample time for, and every carrier was, in fact, afforded the opportunity of, introducing any and all evidence it desired. . . .

"A hearing may be a full one, although the evidence introduced does not enable the tribunal to dispose of the issues completely or permanently; and although the tribunal is convinced, when entering the order thereon, that, upon further investigation, some changes in it will have to be made."

[3] We deal only briefly with the contention of defendant-respondent companies that we are without authority to entertain the motion because there is a fatal defect of parties having authority to present and prosecute the motion now before us. The Illinois Commerce Commission is a "state Commission" as defined in § 2 (8) of the Natural Gas Act, 15 USCA § 717a (8). As such, it is entitled, in our opinion, to file the complaint presently before us and to make the request set forth in the motion for interim order. To conclude that counsel to this Commission are unable to join in the motion would be to subscribe to a paralysis of the administrative process not consonant with the duties involved in the administration of the act. Therefore, we cannot agree that there is a fatal defect of

[2] The applicable sections of the Transportation Act, 49 USCA §§ 1(4) and 15(6), dealing with just and reasonable divisions of rates and the power of the Interstate Commerce Commission to prescribe just and reasonable divisions when, after full hearing, the existing divisions were unjust or unreasonable, closely parallel §§ 4(a) and 5(a) of the Natural Gas Act, *supra*.

parties before us which precludes us from acting upon the motion.

Interim Order Justified

[4] Having found that the defendant-respondent companies have been afforded a full hearing, let us turn to the question: Are we without authority to grant the affirmative relief prayed for in the motion for an interim order? An examination of the motion and record before us discloses that the movants do not call upon us to exercise power similar or comparable to that granted by the New York and Pennsylvania statutes to the regulatory bodies in those states whereby they may prescribe temporary rates upon the basis of much less evidence than that deemed to be necessary for the determination of final rates and wherein each of those Commissions is authorized to prescribe a return upon a rate base to yield not less than a specific per cent fixed by statute, namely, 5 per cent.[3] Under the New York and Pennsylvania statutes there is no necessity for a full hearing with respect to determination of a fair rate of return for the purpose of prescribing temporary rates. In contrast thereto, in the instant proceedings, there has been a full and fair hearing upon the issue of a fair rate of return and there is an acceptance by the movants, for the purpose of this motion, of the testimony of defendants-respondents of the *"highest present rate base figure for the companies' actual properties testified to by the companies' witnesses," together with the companies' estimates of revenue and operating expenses, the life of their source of supply of natural gas, book figures for capital expenditures to date, the total gross capital expenditures over the period 1932 to 1954, inclusive, and other factors essential in presently determining the problem before us.*

It is obvious, therefore, that we are not called upon to perform a function comparable to that delegated by the statutes of New York and Pennsylvania to the regulatory bodies of those states. We are, however, implored to recognize an unpalatable situation, and to apply thereto the affirmative grant of authority delegated to us by the Congress under §§ 4(a) and 5(a) of the Natural Gas Act, *supra,* which plainly require that interstate wholesale rates and charges for natural gas be just and reasonable and declare that *any such rates that are not just and reasonable are unlawful.* In fact, there is a definite direction in § 5(a), *supra,* to the effect that if, after hearing, we find any rate or contract affecting a rate to be unjust or unreasonable, *we "shall determine the just and reasonable rate, charge," etc., "and shall fix the same by order."* Thus, the most casual reading of the act, in the light of its broad purposes, negatives the idea that we are inhibited from granting the relief sought by the motion for an interim order and forcibly emphasizes the duty of this Commission to grant such relief when, as in the instant case, from a factual standpoint, the record is ripe for the application of the express provisions of the act.

There are those who will be rendered unhappy by the frustration of their ambition to maintain the exces-

[3] Section 114 of the Public Service Law of New York and § 310 of the Pennsylvania Utility Act.

sive rates presently charged by defendant-respondent companies. But to refuse a substantial reduction thereof would require us to sit, aloof from reality, and permit unlawful rates to exist without affording those suffering thereby any relief. Inaction on our part would indicate that we had fallen into a mental trap not in keeping with our responsibilities.

The Assumed Rate Base

The defendant-respondent companies claim a rate base computed as follows:

Reproduction Cost New Exclusive of Gas Reserves	$56,302,250
Less "Viewed" Depreciation	2,866,758
Present Value of Physical Properties Exclusive of Gas Reserves	$53,435,492
Present Value of Gas Reserves	$13,334,775
Allowance for Future Capital Expenditures	6,046,286
Going Value	8,500,000
Working Capital	975,000
Total	$82,291,553

[5–7] For the purpose only of disposing of the problem presented by the motion before us, we reluctantly accept the companies' estimate of reproduction cost, their claimed present value of gas reserve, and also their claim for working capital. We cannot, however, even for the purpose of an interim order, accept the full claim for future capital expenditures or the amount sought for going value. It is our opinion, because of the use of the sinking-fund method of amortizing the entire investment, which we are presently approving for the purpose of this motion, no deduction from the companies' estimate of reproduction cost new is being made for depreciation. It is generally agreed that where the sinking-fund method of depreciation is employed (amortization of investment is used in the instant case in lieu of depreciation and depletion), an undepreciated rate base is proper.[4]

It is contended by the companies that during the period from June 1, 1939, to December 31, 1954, when they estimate their sources of gas supply will be exhausted, they will expend for capital improvements the total sum of $9,145,083. However, this entire sum is not claimed as a part of the rate base but only $6,046,286 thereof is sought by applying the principle of average investment. Obviously, the improvements have not yet been made. They are contemplated in the future. It is clear, therefore, that such improvements are not used and useful in the present and to a certain extent must be deemed conjectural. We agree that in fixing rates for the future reasonable estimates of property additions in the immediate future should be taken into consideration. We are of the opinion that the estimate of additions for the period June 1, 1939, to December 31, 1942, is ample for the purpose of disposing of the motion now before us. The companies' estimate for this period is $3,808,399. This amount we allow.

The companies' claim of $8,500,000 for going concern value must be disallowed. The amount obviously is an arbitrary claim, not supported by substantial evidence warranting its allowance. Its allowance would mean the acceptance of a deceptive fiction, resulting in an unfair imposition upon consumers. We are convinced that we

[4] See Telephone and Railroad Depreciation Charges (1931) 177 Inters Com Rep 351, 410; Los Angeles Gas & E. Corp. v. California R. Commission, 289 US 287, 298, 77 L ed 1180, PUR1933C 229, 53 S Ct 637.

are allowing in our rate base more than an adequate amount to cover all elements of value.

In disposing of the motion for interim order, we are accepting at this time the companies' estimates of

Reproduction Cost New of Physical Properties (Exclusive of Gas Reserves)	$56,302,250
Value of Gas Reserves	13,334,775
Capital Additions for the period June 1, 1939 to December 31, 1942	3,808,399
Working Capital	975,000
Total Rate Base	$74,420,424

The foregoing amount allowed as a rate base may be compared with book cost of properties, plus working capital of $975,000, as of December 31, 1939, totaling $60,952,279, and therefrom it is clearly disclosed that the rate base presently allowed herein is liberal. This appears especially true when the period of construction is taken into consideration.

Amortization

[8–11] The companies have introduced evidence relating to the amortization of the investment in, or claimed value of, their properties. Ordinarily, depletion and depreciation are recognized items of expense of natural gas producing and transmission companies, but because of the alleged very limited life of the gas supply in these proceedings, amortization is claimed, and is allowed, in lieu thereof. Evidence was introduced by the companies, as well as by counsel for the Commission, relative to the sinking-fund method of amortization and, for our present purposes, we will accept that method.

The defendants-respondents claim that the present fair value, including estimated value of estimated future capital additions, should be amortized over the remaining estimated life of the gas reserves available to them. We believe that the total investment, in contradistinction to claimed fair value, should be amortized and that the amortization period should be the total estimated life of the business, namely twenty-three years, rather than the remaining life, fifteen years.

The amounts of amortization are recognized and treated as operating expenses. Operating expenses are stated on the basis of cost. There is no more reason to compute amortization expense on the basis of the fair value or reproduction cost of property than there is to substitute fair value or reproduction cost for all other expenses, such as labor, materials, and supplies, etc. In our opinion, the method allowed will, with proper management, return the companies their full and complete investment in their properties by the time their business is estimated to end, with adequate compensation on the claimed fair value of the properties (less the disallowances mentioned above) in the interim. We refuse to make an allowance of amortization in excess of cost. To do so would not be the computation of a proper expense, but instead the allowance of additional profit over and above a fair return. Manifestly such an additional return would unjustly penalize consumers.

The amortizable investment is the total investment estimated to be made during the life of the companies, less the salvage value at the end thereof. For the purpose of disposing of the motion before us we accept the claim of the companies that this in-

vestment will amount to $78,284,009, inasmuch as the amount subject to amortization is the total investment during the life of the enterprises, it follows that the amortization period should be the same period, namely twenty-three years (from 1932 to 1954).

The record discloses that evidence was introduced showing the applicability of the sinking-fund method of amortization to the facts herein. The companies claim the interest rate in the sinking-fund formula should not exceed 2 per cent. However, we feel that 6½ per cent should be used. Where an interest rate lower than the allowed rate of return is used, unjust enrichment of the companies at the expense of the consumers is a most likely result. Under the sinking-fund method, consumers are given no credit by way of a reduced rate base for the amortization expense which in effect is charged against them. If, therefore, a rate of return of 6½ per cent is fair and equitable for the company, by the same token it would seem to be fair and equitable in computing the amortization to be charged as an operating expense under the sinking-fund formula. We will use that rate.

The annual amortization expense on an investment of $78,284,009 for a period of twenty-three years, at the 6½ per cent sinking-fund rate, is $1,557,852. We allow that amount.

We also accept, for the purpose of disposing of the motion before us, the companies' statement of income available for amortization and return for the years 1939 to 1942, inclusive. This means, of course, that we accept the companies' estimates of revenues and expenses, except amortization expense discussed above. The average of such income for these years, according to the estimates, amounts to $9,511,454. The Commission, however, takes note of the increase in Federal income taxes provided by the Revenue Act of 1940. Due to the increase in such taxes, it is estimated that the above net revenue available for amortization and return will be decreased to $9,362,032.

Rate of Return

[12] The record before us clearly discloses that a great amount of testimony was devoted to the question of rate of return. There has been extensive and detailed cross-examination of all witnesses who testified specifically on the subject on behalf of the companies and both Commissions. The defendants-respondents have also had a full opportunity, of which they have availed themselves, to present redirect and rebuttal testimony on this phase of the case. In addition, briefs of all counsel have dealt quite exhaustively with the subject.

It is, of course, beyond the practical scope of this opinion to analyze all the exhibits and testimony dealing with this subject. There is abundant evidence disclosing that we are today at a point where rates of return demanded are among the lowest that have ever existed. The exhibits put into evidence by practically every witness show that today over-all returns and yields are lower than before. Ample evidence of record indicates that the companies would have no difficulty in financing at a low cost if they restricted their securities to a proper amount,

with reasonable ratio of bonds, preferred and common stock. There is substantial evidence of record indicating that the companies could finance on as favorable a basis, if not a more favorable basis, than any natural gas producing and transmission company in the United States. There is testimony of record indicating in this connection that with earnings of 6.2 per cent to 6.5 per cent a sound pipe-line company could easily finance on a basis of 40 per cent bonds, 20 per cent preferred stock, and 40 per cent common stock, with yield or return to the public of 3.5 per cent on the bonds, 5.75 per cent on the preferred and 8 per cent on the common stock. The cost of money to such company would be 3.75 per cent for the bonds, 6.10 per cent for the preferred, and 10 per cent cost of floating the common stock. On such basis of financing, the interest coverage would be 4.68 times.

From the law we know that we are required to fix rates which will permit the companies to earn a fair return. From an examination of the law we can also determine the essential basic general elements that we must consider in determining what is a fair rate of return. However, the application of these principles to a concrete case such as the matter before us requires the application of our judgment to all the facts as we find them in the record.

Fundamental statements respecting the general principles applicable in ascertaining what is a fair rate of return may be found in Bluefield Water Works & Improv. Co. v. West Virginia Pub. Service Commission, 262 US 679, 692, 67 L ed 1176, PUR 1923D 11, 20, 43 S Ct 675, where the court stated:

"What annual rate will constitute just compensation depends upon many circumstances and must be determined by the exercise of a fair and enlightened judgment, having regard to all relevant facts. A public utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties; but it has no constitutional right to profits such as are realized or anticipated in highly profitable enterprises or speculative ventures. The return should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate, under efficient and economical management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties. A rate of return may be reasonable at one time and become too high or too low by changes affecting opportunities for investment, the money market, and business conditions generally."

It is interesting to note that the defendants-respondents do not ask that we find a *fair rate of return* but assert "a minimum of 8 per cent should be allowed defendants as a just and reasonable return on the value of their property." An expert for the Illinois Commerce Commission testified that a fair return for these companies "did not exceed 6 per cent." The brief of counsel to this Commis-

sion states that "the fair rate of return is 6 per cent—and in no event should it exceed 6½ per cent."

Suffice it to say that we have carefully considered the testimony of record relating to the problem of fixing a fair rate of return, contentions of all parties interested in these proceedings, and in the light of the Bluefield Case, *supra*, conclude, for the purpose of disposing of the motion before us, that 6½ per cent is a fair annual rate of return upon the rate base allowed.

Conclusion

The following table shows the results of our conclusions stated above:

Income available for amortization and return		$9,362,032
Less amortization		1,557,852
Income available for return		$7,804,180
Rate base	$74,420,424	
Rate of return	6.5%	
	$4,837,328	$4,837,328
Available for reduction in net revenues		$2,966,852
Consequent reduction in Federal Income Taxes		783,909
Total Available for Rate Reduction		$3,750,761

The record herein, in view of the foregoing, impels us to the further conclusion that rates and charges presently charged by the defendant-respondent companies are unjust, unreasonable, unlawful, and violative of the provisions of the Natural Gas Act. Therefore, until further order of this Commission, and in keeping with the requirements of § 5(a) of the act, 15 USCA § 717d (a), we presently determine for the purpose of disposing of the motion before us that the just and reasonable rates, charges, etc., to be hereafter observed by said companies and fixed by order of this Commission shall reflect an immediate reduction of at least $3,750,000. The Commission feels that a reduction of this amount is conservative in view of the acceptance of the companies' estimates and the generous allowances made throughout.

Before concluding, it is to be noted that the acceptance by us, for the purpose of disposing of the motion for an interim order (and for that purpose only), of reproduction cost testimony presented by the defendant-respondent companies will not inhibit us from subsequently exercising our judgment as to how reproduction cost evidence shall be ultimately treated herein.

An appropriate order embodying its findings of fact will be entered in accordance with this opinion.

ORDER

Having considered the complaint of the Illinois Commerce Commission against, the answer thereto by, and the order of this Commission instituting investigation of, the Natural Gas Pipeline Company of America and the Texoma Natural Gas Company, defendants-respondents herein, a motion of counsel for the Illinois Commerce Commission and counsel for this Commission for an immediate interim order reducing rates, the conditional answer and pleas to jurisdiction in reply thereto by defendants-respondents, the other orders previously entered herein, the evidence of record, the oral arguments presented before the Commission sitting en banc and the briefs filed herein, and having on this date made and entered its memorandum opinion (Opinion No. 49) which is hereby referred to and made a part hereof by reference;

The Commission, for the purpose of disposing only of the joint motion before it for an immediate interim order reducing rates, in the above-entitled matters, finds that:

(1) The Natural Gas Pipeline Company of America is a corporation organized and existing under the laws of Delaware; is engaged in the transportation of natural gas in interstate commerce by means of its 24-inch natural gas main transmission pipe line, approximating 900 miles in length, extending from a point in the state of Oklahoma known as Gray's Junction through the states of Kansas, Nebraska, and Iowa, and into the state of Illinois to a point near Joliet; is also engaged in the sale in interstate commerce of natural gas so transported to various purchasers for resale for ultimate public consumption for domestic, commercial, industrial, and other uses; and is a "natural gas company" within the meaning of the Natural Gas Act;

(2) The major portion, approximating 90 per cent, of the natural gas transported and sold by the Natural Gas Pipeline Company of America is sold to the Chicago District Pipeline Company, for resale for public consumption, delivery being made near Joliet, Illinois;

(3) The Texoma Natural Gas Company is a corporation organized and existing under the laws of Delaware; is engaged in the production and gathering of natural gas in the Texas Panhandle field; is engaged in the transportation of natural gas in interstate commerce by means of its 24-inch natural gas main transmission pipe line, approximating 75 miles in length, extending from its compressor station in the state of Texas near Fritch into the state of Oklahoma to its sales meter and connection, near Gray's Junction, with the system of the Natural Gas Pipeline Company of America; is also engaged in the sale in interstate commerce of gas so transported to the Natural Gas Pipeline Company of America for resale for ultimate public consumption for domestic, commercial, industrial, and other uses; and is a "natural gas company" within the meaning of the Natural Gas Act;

(4) The major portion, approximating 90 per cent of the natural gas so produced and gathered by the Texoma Natural Gas Company, is transported and sold by it to the Natural Gas Pipeline Company of America at the aforesaid delivery point near Gray's Junction, Oklahoma;

(5) The Illinois Commerce Commission is a "state Commission" within the meaning of the Natural Gas Act;

(6) The rates and charges, demanded, observed, charged, and collected by the Natural Gas Pipeline Company of America and the Texoma Natural Gas Company, defendants-respondents herein, for the transportation and the sales of natural gas in interstate commerce, set forth in findings Nos. (1) to (4), inclusive, together with the rules, regulations, practices, and contracts, affecting such rates and charges, are subject to the jurisdiction of this Commission;

(7) The Natural Gas Pipeline Company of America and Texoma Natural Gas Company, defendants-respondents, are under substantially common control and ownership, are but arms of the same organization, be-

ing virtual departments of the same, and are in all substantial respects operated as a single enterprise, for the production, gathering, transportation, sale, and delivery of natural gas;

(8) Until further order of this Commission and for the purpose of disposing of the motion before us, a rate base composed of the companies' estimates may be accepted, as follows:

Reproduction Cost New of Physical Properties (exclusive of gas reserves) as of June 1, 1939 ...	$56,302,250
Value of Gas Reserves as of June 1, 1939	13,334,775
Capital Additions from June 1, 1939, to December 31, 1942	3,808,399
Working Capital	975,000
Rate Base	$74,420,424

(9) The total capital expenditures of the companies through December 31, 1954, less salvage (including all capital expenditures to date), based upon the companies' estimates, will be not more than $78,284,009, which is the amount on which provision for amortization should be calculated;

(10) The period over which the provision for amortization should be calculated is the entire life of the properties, estimated by the companies to be twenty-three years, 1932–1954, inclusive;

(11) The annual allowance for amortization should be calculated on a sinking-fund basis, with interest credited to the amortization reserve at the rate of 6½ per cent per year, compounded annually;

(12) The required annual allowance for amortization is $1,557,852;

(13) The fair rate of return for the companies is not more than 6½ per cent per annum;

(14) The annual amount necessary for a fair return to the companies is not more than $4,837,328, which, with the addition of the annual allowance of $1,557,852 for amortization in (12) above, amounts to a total of $6,395,180, for amortization and a fair return;

(15) The companies' annual net revenues available for amortization and return, based upon the companies' estimates, averaged for 1939 to 1942, inclusive, will be $9,511,454, which will be reduced to approximately $9,362,032 as a result of the calculated increase in Federal taxes under the 1940 Revenue Act;

(16) The companies' annual net revenues (as found in (15) above) available for amortization and return, exceed the amount reasonably necessary as found in (14) above, by $2,966,852;

(17) A reduction in annual net revenues of $2,966,852, together with the consequent reduction in the applicable Federal income tax, would permit a reduction in rates (gross operating revenues) of $3,750,000;

(18) The rates and charges made, demanded, or received by defendants-respondents for or in connection with their transportation and sale of natural gas in interstate commerce for resale for ultimate public consumption are unjust, unreasonable, and excessive;

(19) The rates and charges of defendants-respondents, after reflecting the reductions hereinafter ordered, will be just and reasonable.

Therefore, the Commission *orders* that:

(A) The rates and charges made, demanded, or received by defendants-respondents for or in connection with their transportation and sale of natu-

ral gas in interstate commerce for resale for ultimate public consumption shall be reduced to reflect a reduction of not less than $3,750,000 per annum in the operating revenues of Natural Gas Pipeline Company of America;

(B) Defendants-respondents shall file on or before August 15, 1940, new schedules of rates and charges for or in connection with their transportation and sale of natural gas in interstate commerce for resale for ultimate public consumption, which shall reflect the reduction in operating revenues ordered in paragraph (A) above, which new schedules of rates and charges shall be effective as to all bills regularly rendered on or after September 1, 1940;

(C) The Commission reserves the right to reject all or any part of such new schedules and in lieu thereof to prescribe the same by further order;

(D) On and after the effective date of the new schedules of rates and charges filed and made effective in accordance with paragraph (B) above, defendants-respondents shall cease and desist from making, demanding, or receiving any rates and charges which do not reflect the reduction ordered in paragraph (A) above;

(E) The record herein shall remain open for such further proceedings as the Commission may deem necessary or desirable;

(F) The motion by defendants-respondents to dismiss the motion for immediate interim order reducing rates for want of jurisdiction be and the same is denied;

(G) The motion by defendants-respondents to dismiss the motion for immediate interim order reducing rates for want of sufficient evidence of record be and the same is denied;

(H) This order shall not be construed as an acquiescence by this Commission in any estimates or determinations of original cost, or any valuation of property, claimed or asserted by said defendants-respondents.

FEDERAL POWER COMMISSION

Re Tennessee Gas & Transmission Company

[Docket No. G-165.]

Certificates of convenience and necessity, § 160 — Intervention of parties — Natural gas case.

Coal operators' associations not engaged in the production, transmission, or distribution of natural gas or presently operating any facilities therefor should not be permitted to intervene in a proceeding relating to a gas and transmission company when their participation has not been shown to be

necessary, in view of the fact that under § 7 (c) of the Natural Gas Act, 15 USCA § 717f (c), pursuant to which an application by the gas and transmission company was filed, the Commission does not have unlimited jurisdiction, but a certificate of public convenience and necessity is required to be obtained only when a natural gas company undertakes the construction or extension of facilities for the transportation of natural gas to a market in which natural gas is already being served by another natural gas company; but such associations may be permitted to participate to the extent of introducing relevant and material evidence and may also make oral arguments and file briefs.

(DRAPER, V.C., dissents in part.)

[August 9, 1940.]

APPLICATIONS *by coal operators' associations for leave to intervene in proceeding relating to natural gas company; intervention denied.*

By the COMMISSION: Upon application filed August 5, 1940, by Southern Appalachian Coal Operators' Association, Virginia Coal Operators' Association, Incorporated, Harlan County Coal Operators' Association, and Hazard Coal Operators' Association, praying for leave to intervene in this proceeding;

It appearing to the Commission that:

None of the above petitioners is engaged in the production, transmission, or distribution of natural gas, nor do they presently operate any facilities therefor;

The Commission, upon consideration of said petition, *finds* that:

The participation of Southern Appalachian Coal Operators' Association, Virginia Coal Operators' Association, Incorporated, Harlan County Coal Operators' Association, and Hazard Coal Operators' Association, in this proceeding as interveners and parties thereto has not been shown to be necessary in view of the fact that under § 7(c) of the Natural Gas Act, 15 USCA § 717f (c), pursuant to which the application of Tennessee Gas & Transmission Company was filed, this Commission does not have unlimited jurisdiction, but a certificate of public convenience and necessity is required to be obtained from the Commission only when a natural gas company undertakes the construction or extension of facilities for the transportation of natural gas to a market in which natural gas is already being served by another natural gas company;

The Commission *orders* that:

The petition of Southern Appalachian Coal Operators' Association, Virginia Coal Operators' Association, Incorporated, Harlan County Coal Operators' Association, and Hazard Coal Operators' Association to intervene and to become parties to this proceeding be and it is hereby denied; provided, however, that said Southern Appalachian Coal Operators' Association, Virginia Coal Operators' Asso-

ciation, Incorporated, Harlan County Coal Operators' Association, and Hazard Coal Operators' Association may participate in the hearing to be held on this proceeding on September 4, 1940, to the extent of introducing relevant and material evidence and may also make oral arguments and file briefs.

EDITOR'S NOTE. Similar orders were entered denying intervention of the Railway Labor Executives Association and Alabama Coals, Inc. Docket No. G–165, August 9, 1940. Similarly, in Re Canadian River Gas Co. Docket No. G–124, August 9, 1940, intervention was denied to Northern Colorado Coal Producers' Association.

PENNSYLVANIA PUBLIC UTILITY COMMISSION

William F. Stump et al.

v.

Pennsylvania Power & Light Company

[Complaint Docket No. 11294.]

Commissions, § 17 — Powers — Implied powers.

1. The Commission has only those powers conferred by statute or such as are implied necessarily from a grant of such powers, and the grant of power to act must be clear, p. 61.

Commissions, § 43 — Powers — Service — Rates.

2. The supervisory and regulatory powers of the Commission relate to the furnishing of safe and adequate utility service at reasonable rates, p. 62.

Construction and equipment, § 1 — Construction — Service.

3. The clause "necessary or proper for the safety, accommodation, and convenience of the public" as used in the public utility law requiring public utilities to furnish service to the public means that the suitable facilities, safety appliances, or other devices used by a public utility to perform its public duties, shall be safe for the security and convenience of both its employees and its patrons and the public, p. 62.

Commissions, § 28 — Jurisdiction — Nuisances.

4. The Commission has no jurisdiction over a complaint alleging that a power company maintains and operates a part of its facilities used in generating electric energy in such a manner as to affect detrimentally the health and property of persons located adjacent thereto, p. 62.

[June 17, 1940.]

COMPLAINT *that power company operates its generating facilities so as to affect detrimentally the health and property of persons located adjacent thereto; dismissed for want of jurisdiction.*

By the COMMISSION: The complainants in this proceeding allege that the respondent in the operation of its steam electric generating station, located in Pine Grove township, Schuylkill county, caused large volumes and clouds of smoke, cinders, ashes, coal, and coal dirt to be deposited upon their lands and buildings, thereby killing and destroying a large portion of the crops and produce, making the same unsaleable or saleable at a price lower than the usual market price, impairing the fertility of the soil and hindering the proper cultivation thereof, impairing their health and the health of complainants' families and the well-being of their livestock, amounting practically to a confiscation of the complainants' property; that said condition is caused by the inadequacy and insufficiency of the equipment used by the respondent in its plant, which condition could be corrected if respondent would install and use the proper equipment and facilities, particularly in connection with the operation of the smokestacks of said plant.

Respondent filed a petition to dismiss for want of jurisdiction, on the ground that it appeared from the face of the complaint that the alleged cause of the complaint was of a purely private nature, arising between complainants and the respondent by reason of the use and occupancy of respondent's property and did not relate to the facilities or service of respondent as they affect the safety, adequacy, and sufficiency of such facilities for the carrying on of its business, as a public utility, nor as they affect the accommodation, convenience, or safety of its patrons, employees, and the public.

The petition to dismiss was overruled by the Commission without argument, for the reason that the Commission did not wish to decide the question of jurisdiction solely upon the pleadings, since the testimony to be presented might develop something with which the Commission had jurisdiction to deal.

At the first hearing, after counsel for the complainants had made an opening statement outlining the nature of the complaint and what complainants proposed to prove, respondent renewed its motion to dismiss, which was again overruled for the reason that the testimony might develop something which lay within the jurisdiction of the Commission. Passing upon the motion, sitting Commissioner Bard said:

"For that reason I will overrule your motion and give you an opportunity, Mr. Hull, at the end of the testimony to renew your motion, and also, if the parties want to argue the question then, why, we will also give you that opportunity. And so, I will overrule the motion of respondent to dismiss and grant an exception."

A number of hearings were subsequently held, and after complainants had completed the presentation of their testimony, respondent renewed its motion to dismiss for want of jurisdiction and asked leave to file a brief and to argue the question orally before the entire Commission. The Commission deferred action on the petition and directed that the case be set down for further hearing for the purpose of completing the testimony and closing the record. A hearing

was held on November 16, 1939, at the close of which it appeared that there was still considerable testimony which might be presented by both sides but that none of this additional testimony would throw any light on the question of jurisdiction. Accordingly, it was agreed to close the record and submit to the Commission for decision the question of jurisdiction which had been raised by respondent. The parties reserved the right to introduce additional testimony in the event that the Commission determined that it has jurisdiction.

The Commission granted the request of the parties to file briefs and present oral argument. Such briefs and oral argument were limited to the following question: "Does the Commission have jurisdiction over the cause of complaint which had been disclosed by the evidence presented in this proceeding?"

Do the provisions of the Public Utility Law confer upon the Commission jurisdiction over the matters involved in this complaint?

[1] The Commission, being a creature of the legislature, is vested only with those powers conferred by statute or such as are implied necessarily from a grant of such powers: Day v. Public Service Commission (1933) 312 Pa 381, 3 PUR(NS) 103, 167 Atl 565. Since the power of the Commission is statutory, the legislative grant of power to act must be clear: West Penn R. Co. v. Public Utility Commission (1939) 135 Pa Super Ct 89, 29 PUR(NS) 22, 4 A(2d) 545.

The relevant sections of the Public Utility Law are §§ 401, 413, and 901, which read as follows:

"Character of Service and Facilities. Every public utility shall furnish and maintain adequate, efficient, safe, and reasonable service and facilities, and shall make all such repairs, changes, alterations, substitutions, extensions, and improvements in or to such service and facilities as shall be necessary or proper for the accommodation, convenience, and safety of its patrons, employees, and the public. Such service also shall be reasonably continuous and without unreasonable interruptions or delay. Such service and facilities shall be in conformity with the regulations and orders of the Commission. Subject to the provisions of this act and the regulations or orders of the Commission, every public utility may have reasonable rules and regulations governing the conditions under which it shall be required to render service. Any public utility service being furnished or rendered by a municipal corporation beyond its corporate limits shall be subject to regulation and control by the Commission as to service and extensions, with the same force and in like manner as if such service were rendered by a public utility."

"Proper Service and Facilities Established on Complaint. Whenever the Commission, after reasonable notice and hearing, upon its own motion or upon complaint, finds that the service or facilities of any public utility are unreasonable, unsafe, inadequate, insufficient, or unreasonably discriminatory, or otherwise in violation of this act, the Commission shall determine and prescribe, by regulation or order, the reasonable, safe, adequate, sufficient service or facilities to be observed, furnished, enforced,

or employed, including all such repairs, changes, alterations, extensions, substitutions, or improvements in facilities as shall be reasonably necessary and proper for the safety, accommodation, and convenience of the public, and shall fix the same by its order or regulation."

"*Administrative Authority of Commission Regulations.* The Commission shall have general administrative power and authority to supervise and regulate all public utilities doing business within this commonwealth. The Commission may make such regulations, not inconsistent with the law, as may be necessary or proper in the exercise of its powers or for the performance of its duties under this act."

In determining whether the provisions of the above-quoted sections vest in the Commission jurisdiction over the matters alleged in the complaint, those sections should be read in connection with the Public Utility Law as a whole and considered in the light of the general purpose, scheme, and design of that act, which is the assurance of safe and adequate service at just and reasonable rates.

[2] A public utility corporation is to be considered in two aspects. It has duties which it owes to the public and which it must perform. It has other duties not of a public nature, which are incidental to those of a public character, in the performance of which it stands upon the footing of a private corporation. It is with respect to the duties it owes to the public, that is, the furnishing of safe and adequate service at just and reasonable rates, that the Public Utility Law is primarily concerned, and it is with respect to the performance of those duties that the Commission is vested with supervisory and regulatory powers.

[3, 4] It is not alleged in the complaint, nor is there testimony of record that the electric service rendered by respondent is inadequate or unsafe to its employees, patrons, or the public. The sole basis of the complaint is that respondent maintains and operates a part of its facilities used in generating electric energy in such a manner as to affect detrimentally the health and property of persons located adjacent thereto. It is under the clause—"necessary or proper for the safety, accommodation, and convenience of the public" as used in §§ 401 and 413, *supra,* that complainants predicate the authority of the Commission to take jurisdiction. That clause cannot be so construed. Taken with its context, it means that the suitable facilities, safety appliances, or other devices used by a public utility to perform its public duties, shall be safe for the security and convenience of its employees as well as for the safety and convenience of its patrons and the public. It must operate its business with reasonably safe facilities and appliances. Its duty in that regard is to the public who use or desire to use its service and facilities, or the service and facilities of some other public utility, and who may be affected by the operation of the public utility: West Penn R. Co. v. Public Utility Commission, *supra.*

The complainants are asking the Commission to take jurisdiction over matters which relate to a duty not of a public character. The appellate courts of several states and the Commissions generally throughout the states, including the former Public

Service Commission, under statutes similar to the Public Utility Law, have consistently refused to exercise jurisdiction over such matters.

In People ex rel. New York, N. H. & H. R. Co. v. Willcox (1911) 200 NY 423, 431, 94 NE 212, the Public Service Commission of New York took jurisdiction of a complaint objecting to the manner in which the railroad loaded its manure cars. The order of the Commission was affirmed by the supreme court. The court of appeals, in reversing the order of the supreme court, said:

". . . The object of the legislature, as fairly to be deduced from its enactment (Public Service Commission Law), was to regulate the management and the operations of common carriers within the state, in the interest of the public; that is, of the persons who should use the facilities for the transportation of themselves, or of their property . . ."

In Bluefield v. Public Service Commission (1923) 94 W Va 334, PUR 1924A 158, 118 SE 542, the city of Bluefield filed a complaint with the Public Service Commission of West Virginia against a water company and a power company. The complaint alleged that the water company was constantly digging up a particular street to fix leaks in its mains alleged to be due to electrolysis caused by the power company's trolley wires. The city desired the leaks eliminated because it intended to repave the street and did not wish to have the new paving continuously dug up. The Commission dismissed the complaint for want of jurisdiction. In affirming the order of the Commission, the supreme court held that the Public Service Commission was created to secure adequate service at reasonable rates and, as there was no question involved as to the adequacy of service or reasonable rates, the Commission, therefore, had no jurisdiction.

In Hollister v. Chicago, M. & St. P. R. Co. (1921) PUR1922A 368, the Illinois Commission dismissed for lack of jurisdiction a complaint which alleged that the railroad company stored cars on a switching track to the detriment and injury of adjoining real estate.

In Re Brierly, PUR1918D 499, the Massachusetts Commission dismissed for lack of jurisdiction a complaint against the unloading of ice from railroad cars in a residential district, where the objection was based merely upon the noise caused thereby and the use of loud and profane language during the period of unloading.

In Roesch v. New York C. R. Co. PUR1931E 149, the New York Commission dismissed for lack of jurisdiction the complaint against an alleged nuisance of a railroad by reason of the emission of smoke from engines, shunting and switching of freight cars, and the method of handling freight cars.

In De Long v. Lehigh Valley R. Co. (1916) 2 Pa PSC 700, PUR 1917B 982, the Public Service Commission dismissed for lack of jurisdiction a complaint alleging unnecessary smoke and noise in the operation of railroad locomotives.

See also Stockshippers of Beulah v. Northern P. R. Co. (ND 1936) 3 PUR Digest Supp 323. Re Ford (NH 1916) PUR1917A 253.

The principles enunciated in Cook v. Pennsylvania Power & Light Co.

(1929) 14 D. & C. (Pa) 599, and Midland Borough v. Steubenville, E. L. & B. V. Traction Co. (1930) 300 Pa 134, 150 Atl 300, cited by complainants, do not rule the present case. The former involved the crossing of facilities by utilities and the latter involved the joint use of facilities by utilities. There is no question that jurisdiction over such matters was vested in the Public Service Commission under the provisions of the Public Service Company Law, and that jurisdiction over such matters is now vested in the Public Utility Commission under the provisions of the Public Utility Law.

The case of Elliott Nursery Co. v. Duquesne Light Co. (1924) 281 Pa 166, 126 Atl 345, is more on point than any of the authorities cited by either the complainant or respondent. The factual situation in that case is identical with the factual situation in the present case. There the plaintiff filed a bill in equity and alleged that excessive quantities of ashes, cinders, smoke, soot, and sulphur dioxide, the products of combustion of bituminous coal, which defendant burned to the extent of 1,500 tons per day, were deposited on its nursery and the vegetation produced and growing therein, to its great injury. Plaintiff further alleged that it was damaged by coal dust coming from the handling of coal at defendant's coal storage yards. Declaring that the manner of operating the power plant created a nuisance, the bill was filed to restrain defendant from discharging and depositing injurious substances on plaintiff's property. The chancellor refused to grant relief from the substances emanating from the smokestacks, but retained the bill for the purpose of affording plaintiff relief in the event that it should appear later that the injury from the coal dust had not ended. The decree of the chancellor was affirmed by the supreme court.

Although no objection was made as to the jurisdiction of a court of equity over the matters alleged in the bill, nor was the question of jurisdiction discussed by either the chancellor or the supreme court, it must be assumed that that question was duly considered. It is a fundamental rule that a court is bound to take notice of a question of jurisdiction although no objection was made on the ground of want of it. Jurisdiction is a matter of law which the court must judicially notice: Com. ex rel. Ballou v. Halifax Township Supervisors (1926) 7 D. & C. (Pa) 663; Smith v. Becht (1925) 7 D. & C. (Pa) 14; Stearly's Appeal (1859) 3 Grant's Cases (Pa) 270.

In view of the fact that the jurisdiction of a court of equity to deal with matters identical to those involved here was tacitly affirmed by the supreme court in Elliott Nursery Co. v. Duquesne Light Co. *supra,* and in view of the other authorities heretofore cited, we find and determine that jurisdiction over the matters as alleged in the present complaint is not vested in the Commission.

All the matters and things involved having been duly considered; therefore,

Now, to wit, June 17, 1940, it is *ordered:* That the complaint be and is hereby dismissed for want of jurisdiction.

Are your Compressors OIL HOGS?

Read How this Midwest Gas Compressor Station PROVED It Could Save with CITIES SERVICE!

Lubricant costs in terms of cents-per-gallon . . . and *lubricating* costs in terms of horsepower-hours of service per gallon . . . may tell two entirely different stories!

To this Midwestern pipeline company, "cheap" oil seemed reasonable enough for both compressors and their prime-movers, two double-acting engines. Excessive lubricant consumption, high maintenance costs and frequent down-time for repairs were accepted as necessary evils . . . until a Cities Service Field Engineer put the Cities Service Heat Prover on the job. Then, complete combustion due to poor adjustments showed up like a sore thumb!

As a result of this study this plant's overall operating costs have been greatly reduced. In addition, fewer service interruptions and fewer man-hours for maintenance have paid—and are paying—impressive dividends.

Is there a lesson in this for you? Whether or not you suspect your own compressor station costs can be reduced, why not find out for certain? Call in an *expert*. Consult our Lubrication Engineers. They will be glad to survey your plant, without obligation of any sort, and make recommendations based on a broad experience with similar problems. Simply write or phone your nearest Cities Service Office.

CITIES SERVICE Oils and Gasolenes

CITIES SERVICE OIL COMPANY—Chicago, New York, Cedar Rapids, Boston, St. Paul, Grand Forks, Kansas City, Fort Worth, Tulsa, Milwaukee, Cleveland, Detroit, Syracuse, Harrisburg.

CITIES SERVICE OIL COMPANY, LTD.—Toronto, Ontario.

ARKANSAS FUEL OIL COMPANY—Shreveport, Little Rock, Jackson, Miss., Birmingham, Atlanta, Charlotte, N. C., Nashville, Richmond, Miami.

Industrial Progress

Selected information about manufacturers, new products, and new methods. Also news on utility expansion programs, personnel changes, recent and coming events.

Westinghouse Plans 8½ Million Expansion Program

THE Westinghouse Electric & Manufacturing Company will spend more than 8½ million dollars to expand national defense and peace-time production, President George H. Bucher revealed recently.

The Westinghouse expansion program is scheduled to be completed next June, with the bulk of the appropriation—five millions—going for machine tools and equipment to produce war materials. The rest will be used to construct 15 new buildings in six different states, Mr. Bucher said.

An additional 6 million dollars has been authorized for the maintenance of the expanded plant facilities.

Gas Appliance Sales Up For Seven Months

A GRATIFYING increase in the sale of gas fired furnaces (house heating equipment) throughout the country has been reported by C. W. Berghorn, managing director of the Association of Gas Appliance and Equipment Manufacturers, from the Association's national headquarters in New York.

Mr. Berghorn announced that during the first seven months of this year (January through July) sales of this type of house heating equipment were 48.5 per cent ahead of sales figures for the corresponding months in 1939.

It was also reported that during this seven-months period domestic gas range sales were up 15.8 per cent and that sales of gas water heaters increased 13.3 per cent.

1941 Dodge Truck Line Most Complete in Company's History

MODERNLY streamlined in styling and markedly advanced in design and engineering, the new 1941 line of Dodge Job-Rated trucks is by far the most complete in the history of the corporation, according to Lee D. Cosart, sales manager of the truck division, Dodge Brothers Corporation.

Offered in 112 standard chassis and body models, (an increase of 16 models since the outset of 1940) on 18 different wheelbase lengths and in 6 capacities ranging from one-half ton commercial units to heavy-duty gasoline and Diesel-powered freight haulers, the new line is said to meet 97.3 per cent of all truck hauling requirements.

An impressive trimness and sturdiness instantly discernible on each model, from the chrome-finished radiator grille ornamentation and louvers, through every line of the cab and fenders, characterizes the prestige building, up-to-date appearance of these new trucks. "Sealed-Beam" headlights mounted in pockets formed in the front fenders, and new style parking lights mounted on the cowl are innovations contributing importantly to streamlined appearance.

Indicating the increasing importance attached to fine appearance of modern transportation equipment is the fact that the new ½, ¾, and 1-ton Dodge trucks are available in a score or more of tu-tone color combinations at no extra cost.

1940 Kelvinator Sales Double Last Year's

THE greatest sales record in Kelvinator's long history will be hung up in 1940, it was announced by Frank R. Pierce, Kelvinator's general sales manager, who says that business during this record-smashing year has been 2¼ times of what it was in 1939.

"With dealers all over the country reporting a greater public acceptance for our product than ever before," Pierce stated, "this tremendous increase in Kelvinator business is highly significant, as the refrigeration industry as a whole has experienced only a 35.1 per cent gain over 1939. Translated into other terms," he said, "this means that Kelvinator's percentage share of the entire electric refrigeration industry has almost doubled."

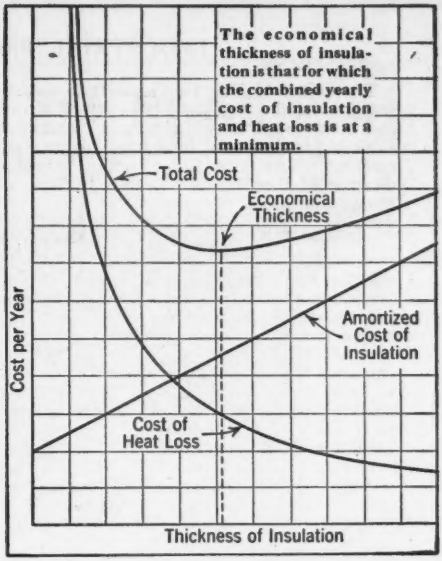
S. B. Finch Elected Officer of New Gas Organization

STANLEY B. Finch, coördinator for the gas industries at the New York World's Fair, has been elected secretary-treasurer of "The Pavilionaires, Inc.," a newly organized group which will maintain on a permanent basis the functions and work of the present World's Fair Exhibitors Association. This was announced recently following the incorporation of the new organization.

DICKE TOOL CO., Inc.
DOWNERS GROVE, ILL.
Manufacturers of
Pole Line Construction Tools
They're Built for Hard Work

Mention the FORTNIGHTLY—*It identifies your inquiry*

How to SAVE THE MOST MONEY with INSULATION


The economical thickness of insulation is that for which the combined yearly cost of insulation and heat loss is at a minimum.
Total Cost
Economical Thickness
Amortized Cost of Insulation
Cost of Heat Loss
Cost per Year
Thickness of Insulation

Make sure all your equipment is insulated with the *correct materials* in the *one correct thickness* that combines maximum operating efficiency with minimum heat waste

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WHETHER OR NOT your insulation is a paying investment depends entirely on the materials used and the amount applied. *Too much* insulation will never pay an adequate return . . . *too little* results in heat losses that build up excessive fuel bills. Proper insulation, properly applied, will avoid both these costly mistakes. And that's where the J-M Insulation-Engineering Service can help you.

Let a J-M Engineer go through your plant and make a thorough study of your requirements. He'll give you the benefits of Johns-Manville's 81 years' research and practical experience with insulation problems. He can tell you exactly how much insulation you can profitably use . . . and his recommendations will point the way to worthwhile reductions in your fuel costs.

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This helpful service has saved thousands of dollars for many individual steam plants. There's a good chance a J-M Engineer can do the same for you. For full details on the J-M Insulation-Engineering Service and information on the complete line of J-M Insulations, just write Johns-Manville, 22 East 40th Street, New York, N. Y.

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FOR EVERY TEMPERATURE . . . FOR EVERY SERVICE CONDITION

The object of The Pavilionaires is to preserve and add to the knowledge gained at this and other major expositions, and to make it available to business, industry and managements of future fairs. Col. Sherman A. Snapp, director of the Standard Brands Building at the World's Fair, was named the first president.

Concerning the constructive purposes of the new organization, Mr. Finch said: "We hope that the Pavilionaires will serve as a clearing house for information and advice on financial, promotion and operating policies for any major fair that may be projected in the future. In the last two years, and at previous fairs, we have learned a great deal. We wish to be in a position to pass on our experience quickly and easily. We shall be glad to work with both the promoters and prospective exhibitors of the next big fair."

During the past three years Mr. Finch has served as assistant to Hugh H. Cuthrell, president of Gas Exhibits, Inc., in the capacity of coördinator and liaison official between the management group and the World's Fair Corporation. He was active in the promotion of his industry at the Fair which resulted in the extensive use of gas throughout the exposition and the many installations of gas appliances and equipment in the Fair's buildings.

Mr. Finch is associated with the Brooklyn Union Gas Co., Brooklyn, N. Y.

Los Angeles Orders 65,000 KW Turbine Generator

A CONTRACT to build a 65,000 kw turbine generator has just been awarded the Westinghouse Electric & Manufacturing Company by the City of Los Angeles, California. The unit, to be installed in the Wilmington Station and costing over one million dollars, will be the largest 3600 rpm condensing turbine that has been built. Steam conditions are 850 lbs. per square inch, 900 degrees Fahrenheit and 29 inches Hg. vacuum.

The turbine will provide firm reserve power for the electricity received from the hydro-electric development at Boulder Dam. It will normally carry a load of 5000 kw, being ready at any instant to pick up and carry a full load of 65,000 kw should there be an outage along the Boulder Dam line.

The unit which has a maximum rating of 75,000 kw, weighs over 500 tons, and has a blade tip speed of approximately 850 miles per hour. It will be placed in service in 1942.

MARTENS & STORMOEN
successors to
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Disconnecting Switches
Heavy Duty Switches
15 Hathaway St., Boston, Mass.

Cleveland Transit Load Worth 24,000 Homes as Electric Load

THE Cleveland Railway System operates 25 trolley coaches, equivalent in load-building power to 1125 refrigerators, 600 ranges, or 17,325 washers, it has been calculated by F. V. Gantt, General Electric transportation specialist at Cleveland.

The operating company last year paid a total of $808,500 for electric power, which translated into revenue received from the average domestic consumer represents 24,450 homes, said Mr. Gantt. In pointing out the importance of the trolley coach as a utility load, he said approximately 3000 trolley coaches have been sold. Based on average consumption, they mean an annual load in excess of a third of a billion kilowatt-hours.

New Block and Pipe Insulation Announced by Johns-Manville

A NEW 1500-degree insulating material called L-W Superex has recently been introduced by Johns-Manville. Furnished in both block and pipe covering form, this new material was developed by the J-M Research Laboratories and represents a marked improvement in conductivity and strength for an insulation in the service temperature range above 600 deg. F., according to the company's announcement.

L-W Superex is offered for use generally in stationary and marine power plant equipment and piping, the blocks being suitable for use in industrial furnaces, ovens, kilns, roasters, regenerators, high temperature mains, flues, and stacks, where the insulation will be subjected to temperatures between 600 and 1500 deg. F. The sectional form is intended for piping and headers within the same temperature range.

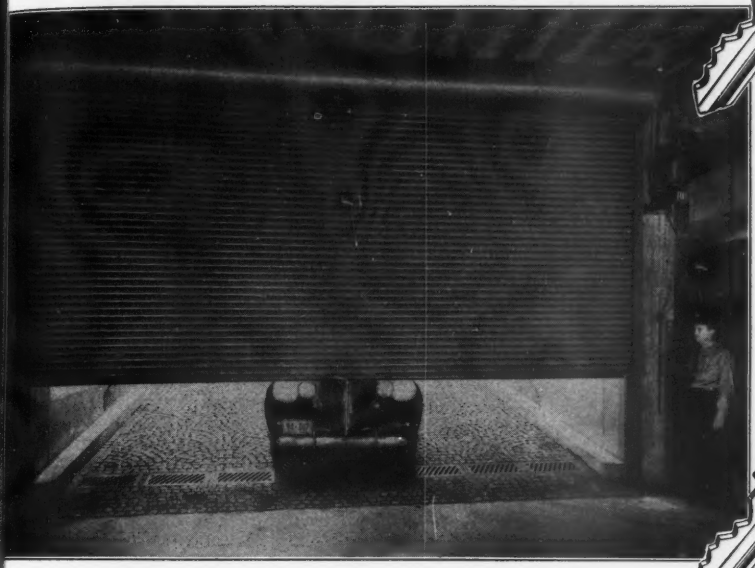
New Heavy Duty 20-Ton Emergency Jack

TO meet the need for an emergency jack for use in the heavy industries, Templeton, Kenly & Co., Chicago, Ill., have introduced a model that has a full 20-ton lifting and holding capacity on either the cap or toe lift of the jack.

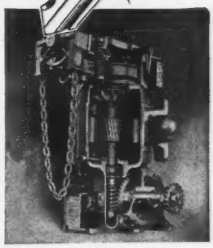
Designated No. 2030, this jack is 30 inches high, has a full 17¾-inch lift and weighs 167 pounds with complete equipment. Besides lifting on cap and toe, it lifts on the auxiliary shoe which hooks into the cap or on the chain with grab hook end, any link of which can be engaged with the recess in the cap.

Beside lifting and lowering vertically, this jack tilts on its base for jacking at an angle. The tilting pawl can be released by the operator's toe. The No. 2030 can be used horizontally for pushing, spreading or pulling by using the chain.

HERE'S THE KEY TO REAL DOOR EFFICIENCY . . .



KINNEAR MOTOR OPERATED STEEL ROLLING DOORS



Doors that open rapidly, smoothly and easily mean savings in time, labor and money! And Kinnear Motor Operated Rolling Doors bring you even more—the extra efficiency of remote control!

Think of the convenience of being able to operate doors quickly from any number of convenient points—at the touch of a button!

Kinnear Rolling Doors save valuable floor and wall space, too, because they coil compactly out of the way above the opening. They open out of reach of damage by wind or trucks. And their rugged, all-steel construction and sound engineering make long lasting service a certainty. They will not sag, warp, or split; they are burglar proof, vermin proof, weather-tight, and fire repellent.

All these advantages—and many others—explain the proved operating and maintenance economy of Kinnear Rolling Doors. The Kinnear Catalog will show you how you can cut door costs in your plant. Write today for your copy. The Kinnear Manufacturing Company, 2060-80 Fields Ave., Columbus, Ohio.

KINNEAR ROLLING DOORS

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This jack is recommended for utility, construction and engineering projects where heavy machinery is used and where emergencies arise that demand the use of a heavy duty jack.

Two Eastern Utilities Order 102,000 KW of G-E Turbines

ORDERS for turbine-generator sets, totalling 102,000 kilowatts and costing more than $2,000,000, have just been placed with the General Electric Company by two eastern utilities. The units ordered are a 52,000-kw unit for Consolidated Gas & Electric Co. of Baltimore and a 50,000-kw for Potomac Electric Power Co., of Washington, D. C.

The turbine-generator for Consolidated Gas & Electric of Baltimore is a duplicate of another now being built in the General Electric shops and scheduled for shipment in January, 1941. In addition, a 25,000-kw G-E Topping unit which will exhaust to two older 20,000-kw units is now being installed at the Westport station. The two 52,000-kw turbines will be 3600-rpm, tandem-compound, double-flow units with steam conditions of 850 lb. pressure and temperature of 900° F., one inch absolute back pressure. Generators will be hydrogen cooled.

The Potomac Electric Power Co. turbine, to be installed in the Buzzard Point Station at Washington, D. C., will also be a duplicate of a General Electric unit shipped to this station in July and now being installed. Both are 50,000-kw, 1800-rpm, single-casing, single-flow turbines, having steam conditions of 650 pounds pressure and 900° F. temperature, 1-inch absolute back pressure.

Heating & Ventilating Groups Plan 1941 Meetings

THE 1941 Pacific Heating & Air Conditioning Exposition will be held in San Francisco, Exposition Auditorium, June 16th to 20th.

Coincidental with this, the summer meeting of the American Society of Heating and Ventilating Engineers and also the meeting of the Heating, Piping & Air Conditioning Contractors National Association will be taking place.

This Exposition will be a special interim showing between the normal sequence of the 6th and 7th International Heating & Ventilating Expositions, the 6th having been held at Cleveland in January of this year and the 7th will be held in Philadelphia, January, 1942.

This Exposition will present the largest and most comprehensive showing of air conditioning, heating, ventilating and accessory apparatus and equipment ever seen upon the Pacific Coast, according to an announcement.

New Telescriber Announced

A NEW TelAutograph telescriber for instantaneously transmitting written messages over wires has just been announced by Tel-Autograph Corporation. This new instrument is capable of transmitting writing, sketches or figures in facsimile to a number of stations simultaneously or to any one or more stations selectively—within one building or between buildings miles apart.

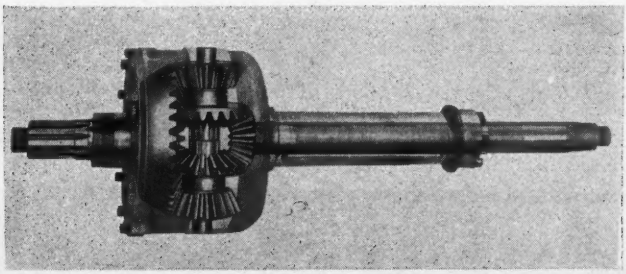
Two new features of this instrument increase its speed of operation: The complete writing field is automatically cleared of each message by one touch of a starter switch, and an electric paper take-up replaces the manual winder previously used.

FWD Announces New Power Proportioning Differential

A NEW power proportioning differential especially designed for six-wheel drive trucks has been announced by H. B. Dodge, chief engineer of The Four Wheel Drive Auto Company of Clintonville, Wisconsin, FWD truck manufacturers.

The new power proportioning differential is used in the power line of six-wheel-drive trucks and distributes the driving power to each axle in direct proportion to their normal loaded weight. The new differential provides full differential action between the driving axles of the truck.

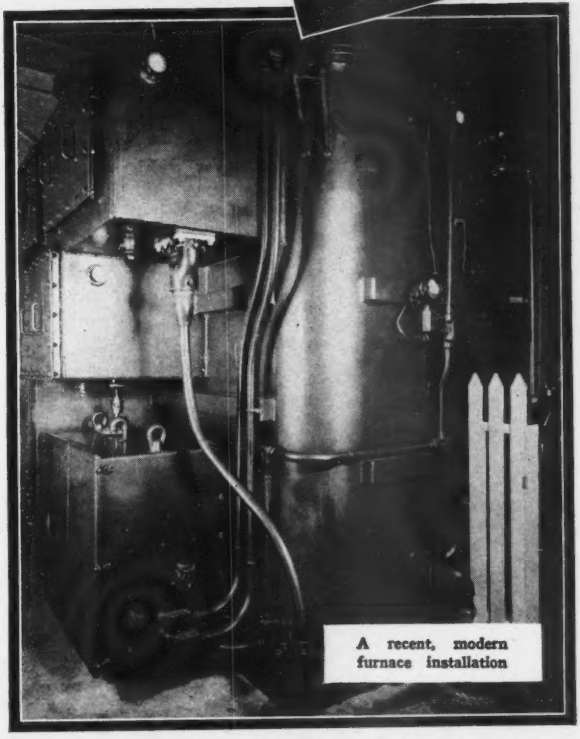
Advantages claimed by the manufacturer include, (1) Increased draw bar pull with free differential action, (2) Added hill climbing ability, (3) Elimination of front wheel spin, (4) Increased tire mileage, (5) Increased all around performance, (6) Lower operating and maintenance costs.



FWD Power Proportioning Differential for Six-Wheel Drive Trucks.

Pennsylvania FURNACE TRANSFORMERS

The choice of heavy industries



A recent, modern furnace installation

SOME reasons for their preference: • Designed and built under one roof by a specialized organization • Ample production facilities for the largest sizes needed • Capable technical counsel to help you with your most intricate problems!

TOMORROW'S TREND TODAY IN TRANSFORMERS

Pennsylvania TRANSFORMER COMPANY

1701 ISLAND AVENUE, N. S., PITTSBURGH, PA.

10

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New Appointments

Pittsburgh Equitable

Col. W. F. Rockwell, president of the Pittsburgh Equitable Meter Company, has announced the election of A. D. MacLean to the vice presidency of the company.

Mr. MacLean is a graduate of the School of Engineering, Harvard University. His first connection in industry was with the Ashton Valve Company of Cambridge, Mass., as chief draftsman. He later accepted a position with the engineering department of the New Departure Division of General Motors Corporation and was subsequently promoted to become assistant chief engineer.

In 1926 Mr. MacLean joined the EMCO organization as chief engineer, which position he has filled until the present date.

Mr. MacLean is well known in industry as an author and lecturer on technical subjects.

Equipment Literature

Gas Meters

THE Sprague Meter Co., Bridgeport, Conn., has issued Catalog No. 22 covering its No. 4 cast iron gas meter, developed especially for house heating and small industrial installations. The catalog gives complete illustrations, descriptions and specifications.

Performance curves, specification tables, and price lists on parts and tools are included in its twelve-color pages, bound with heavy paper, and punched for ring binders.

Liquid Level Meters

A new eight-page bulletin covering six different styles of mechanical and electric operated liquid level meters has just been published by Cochrane Corporation, Philadelphia. Four electric operated types particularly designed for remote service, including float, differential pressure, and bourdon spiral systems, are included in the bulletin.

The potentiometer type meter described on page three is a new design. The Selsyn circuit previously used in this electrically operated float type liquid level meter has been discontinued. This potentiometer circuit is the same as used with the Cochrane remote flow indicators.

Application drawings and technical data are conveniently arranged in sections devoted to each of the various available instruments.

Copies of the new liquid level bulletin, publication 2990, may be secured from the Cochrane Corporation.

Feeder Voltage Regulator

ALLIS-Chalmers Mfg. Company, Milwaukee, Wisconsin, has released a new Bulletin, B-6065, giving the latest information on their transformer type of distribution feeder voltage regulators. It describes the construction, operating characteristics and advantages of this modern type of equipment and gives engineering and price information on a wide range of sizes for 2400, 4800 and 6900 volts.

Fluorescent Lighting

Hygrade Sylvania Corporation has issued a 21-page catalog listing the models available in the Miralume Line (unit packages of fluorescent light for commercial and industrial use—all ready to hang up and wire in) and giving the story of these complete fluorescent lighting units.

Copies are available in limited quantity upon request to the manufacturer at their Ipswich, Mass., office.

Network Transformers

A new four-page illustrated folder describing network transformers for use on power distribution systems in industrial locations or in municipal areas has been announced by the Westinghouse Electric and Manufacturing Company.

Contained in the booklet are pictures and a simple description of the component parts that go into the completed transformer. Such features as compactness, efficiency, quietness, and cool operation are emphasized. Sketches showing side, top, and end views of the transformer are labeled to show every important device with which it is equipped.

Copies of the folder F-8566 may be obtained upon request from department 7-N-20, Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa.

Restaurant Equipment

Announcing its desire to help distributors make easier and better sales, The Silex Company has condensed its new catalog of restaurant equipment. In this new, attractive, two-color catalog prices have been listed directly opposite each model. Ample information has been included to enable any salesman to decide the proper size unit for any customer.

The new four unit Terrace model, in gas and electric, is included. This model is designed for those who have considerable demand for coffee, but limited shelf room for equipment.

Consumer folders covering the commercial line have been prepared and are now available to all dealers. These folders have been designed to create interest and stimulate sales.

Catalogs will be sent on request by The Silex Company, Hartford, Connecticut.

Wilson, Herring and Eutsler's

PUBLIC UTILITY REGULATION

571 pages, $4.00

AN analysis of the nature, extent, and problems of public utility regulation in the United States, with emphasis upon the expanding role of the Federal Government in the regulation of public utilities, its activities in undertaking power projects and promoting rural electrification, and the issues involved in governmental ownerships. The well-rounded treatment and critical viewpoint will be of aid to all who are interested in evaluating the present status of public utility regulation, its strengths, weaknesses, and significance for privately-owned industry.

Order from

Public Utilities Reports, Inc.

Munsey Bldg. Washington, D. C.

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An Economical Service

- *Specially Trained Men*
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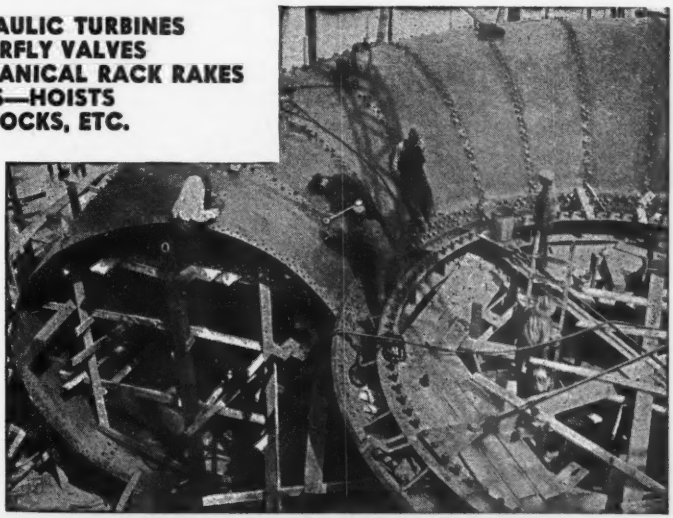

Bolting the Spiral Casing before Riveting

NEWPORT NEWS SHIPBUILDING AND DRY DOCK COMPANY
Hydraulic Turbine Division
NEWPORT NEWS, VA.

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The *MEASURE* of Crawler Power Today!

International Diesel TracTracTors have brought *new ideas of crawler design, efficiency,* and *economy* to every industry. With the introduction of the big, powerful International TD-18 a year ago, *new standards* were set. And now the new TD-14, TD-9, and TD-6 extend International's advantages to *all* crawler-tractor needs.

When you see *all* the features of TracTracTor design you'll come to this conclusion: International Diesel TracTracTors are "tops" in every way. You'll be more firmly convinced of this when you put them on the job and see how much work they turn out, day after day, and how they slash costs right and left.

Match up this *perfectly designed balanced power* with balanced allied equipment and watch the combination produce! The nearby International industrial dealer or Company branch will give you a convincing demonstration any time you say.

INTERNATIONAL HARVESTER COMPANY
180 North Michigan Avenue, Chicago, Illinois

INTERNATIONAL HARVESTER

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Every afternoon at four...

Inside one of New England's big, red-brick factories, stands a door.

Not a very unusual door, either. It's finished in golden oak, with a pane of frosted glass in the customary place, and some lettering on it.

Every afternoon at four o'clock, this door extends an unspoken welcome to each of Royal's 5,000 plant employees. For then "The Boss" is alone in his office... ready to listen to their ideas, their complaints... eager to help with their personal problems.

This regular afternoon period of counsel and advice typifies the very real human relationship that has prevailed at Royal these many years. We hope it will continue forever. Not only because we believe there should be a common, friendly bond between employer and employee. But because we think the loyalty and morale such a relationship creates have a definite bearing on the quality of our product.

Indeed, we credit the "open door" at Royal... and the things it stands for... with having helped tremendously to build for Royal the leadership this typewriter enjoys today throughout the civilized world.

ROYAL
World's No. 1
TYPEWRITER

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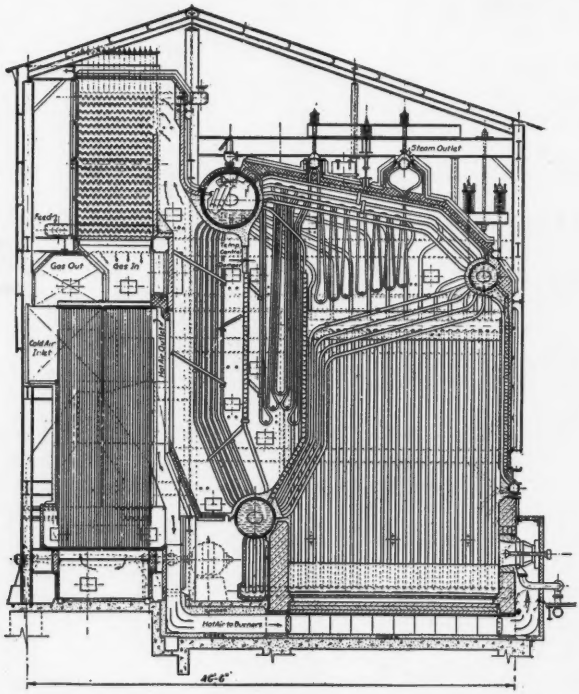
RILEY STEAM GENERATING UNIT

Installed in the plant of

A Large Texas Utility



250,000 Pounds of Steam per hour. 975 lbs. Steam Pressure. 910° F. Steam Temperature.

Riley Boiler, Superheater, Steam Temperature Control, Economizer, Air Heater, Water Walls, Steel Clad Insulated Setting.

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COMPLETE STEAM GENERATING UNITS

BOILERS - SUPERHEATERS - AIR HEATERS - ECONOMIZERS - WATER-COOLED FURNACES
PULVERIZERS - BURNERS - MECHANICAL STOKERS - STEEL-CLAD INSULATED SETTINGS

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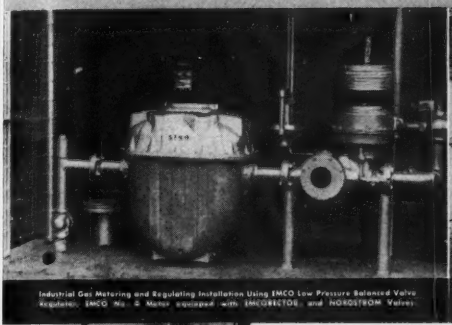
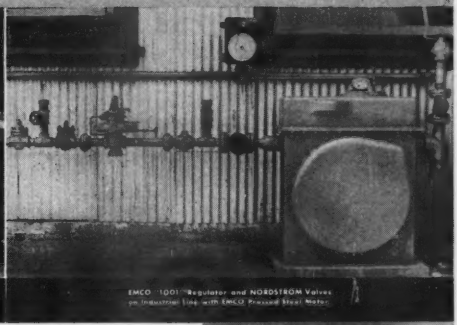
Precision Measurement and Control for Industrial Gas Loads

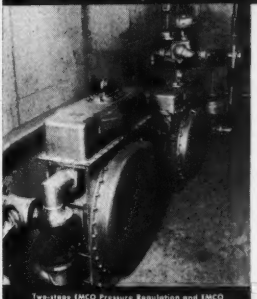
EMCO METERS AND REGULATORS
NORDSTROM LUBRICATED PLUG VALVES



Industrial Gas Metering and Regulating Installation Using EMCO Low Pressure Balanced Valve Regulator, EMCO No. 5 Meter equipped with EMCOSELECTOR and NORDSTROM Valves.



EMCO 1001 Regulator and NORDSTROM Valves on Industrial Line with EMCO Pressed Steel Meter.



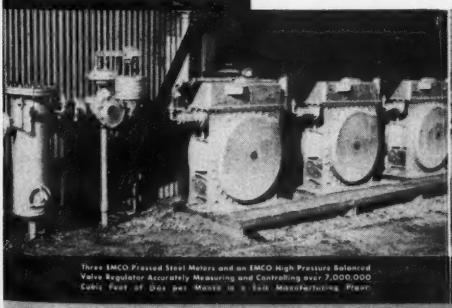
Two-stage EMCO Pressure Regulation and EMCO Pressed Steel Meters in California Industrial Plant. Lines are NORDSTROM Valve Controlled.

OF industry's three most widely used types of fuel —gas, coal and oil—gas alone offers unique savings in addition to its inherent operating advantages and efficiencies.

The efficient utilization of this simple, easy method of fuel supply is dependent upon metering and control equipment developed for this service itself. EMCO Meters and Regulators provide the necessary accuracy, ruggedness and simplicity. They have progressed hand in hand with the growth of industrial gas consumption.

PITTSBURGH EQUITABLE METER COMPANY
MERCO NORDSTROM VALVE CO.
NEW YORK · BUFFALO · PHILADELPHIA · BOSTON · CHICAGO · COLUMBUS
KANSAS CITY · TULSA · LOS ANGELES · *Main Offices* · PITTSBURGH, PA. · MEMPHIS · OAKLAND · HOUSTON

Midwest Manufacturing Plant Utilizing EMCO Large Capacity Meter with EMCO Low Pressure Balanced Valve Regulator and NORDSTROM Valves.



Three EMCO Pressed Steel Meters and an EMCO High Pressure Balanced Valve Regulator Accurately Measuring and Controlling over 7,000,000 Cubic Feet of Gas per Month in a Salt Manufacturing Plant.

EMCO No. 4 Large Capacity Meter with Combined Record Gauge Measuring Gas Controlled by EMCO Low Pressure Balanced Valve Regulator and NORDSTROM Valves.

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How to solve the problems of ELECTRIC DISTRIBUTION

This handy manual presents essential data, factors, tables and diagrams for practical application by all who are concerned with the planning, design, construction, operation, maintenance, inspection and supervision of the electric distribution system.

ELECTRIC DISTRIBUTION FUNDAMENTALS

By Frank Sanford

Distribution Engineer, Cincinnati Gas & Electric Co.

242 pages, 156 illustrations
15 tables, 1 chart, $2.50

Covering the ABC of electric distribution—of both the utility distribution, and the industrial and inside wiring branches of service to the outlet—this book explains the everyday problems involved in distributing electrical energy anywhere between the major substations and the customers' meters.

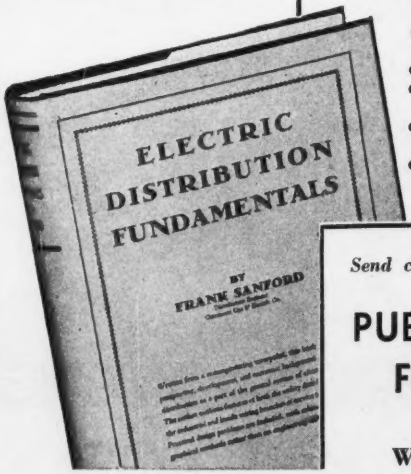
COVERS ALL STEPS

From a nonengineering viewpoint it discusses how the distribution system works; how it is planned, designed and constructed; how service and operating routine is handled; elementary principles of methods and equipment; basic factors of the electric circuit; methods of generation; selection, application and design of transformers; design of carrying lines; problems of maintaining current flow; mechanical principles and strength of materials; how distribution fits in economically with the electric supply system as a whole; etc.

Step by step explanations cover voltage drop, wire size calculations, transformer connections, power factor improvement, inductive reactance, and similar problems.

EASILY UNDERSTOOD

Practical design problems are included with solutions based on diagrams instead of difficult mathematics. Numerous illustrations, diagrams and tables will be found helpful for a quick and complete understanding of the fundamentals.



TREATS:

—design and construction
—operation and service
—methods and equipment
—mechanics and materials

THESE CROWDED CHAPTERS BRING YOU PRACTICAL, HELPFUL DATA

- Perspective of the Electric System
- Distribution to Serve the Load
- The Distribution Division
- Generation of Electricity
- Fundamentals of the Electric Circuit
- Inductance and Related Characteristics
- Tools for Electrical Problems
- Transformers
- Transformer Connections
- Voltage Control
- Current Interrupting Equipment
- Voltage Protection — Lightning—Grounding
- Street Lighting Circuits
- Mechanical Principles in Distribution
- Economic Principles in Distribution
- Measures of Service

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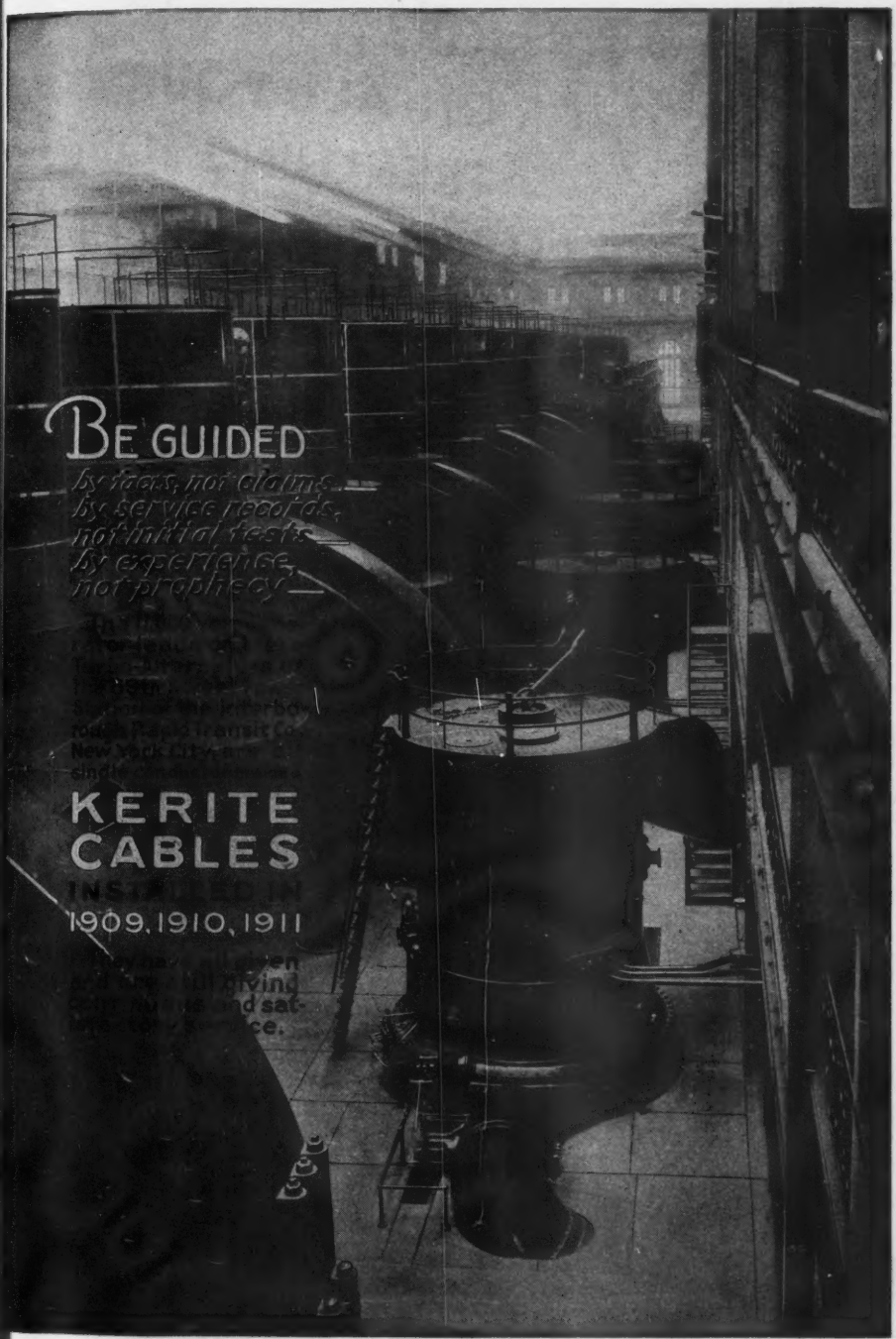

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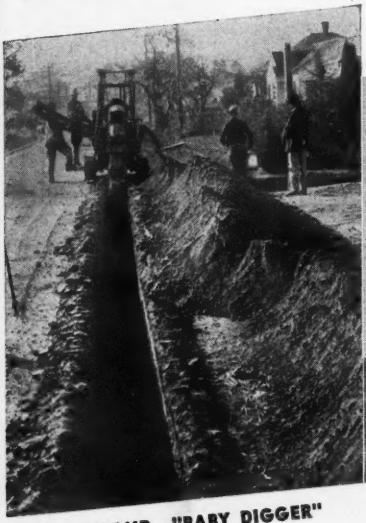
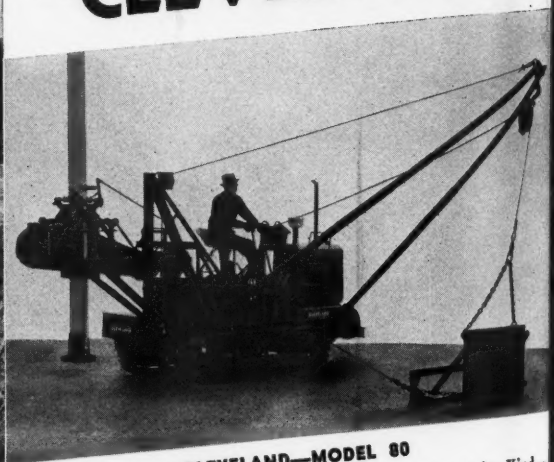
THE WAY TO MORE SAVINGS ON ALL YOUR TRENCHING JOBS...

DIG-BACKFILL-TAMP with "CLEVELANDS"



CLEVELAND—"BABY DIGGER" Model 95

The Ideal Trencher for City and Suburban Work—Digs Ditch 10½ in. to 23½ in. wide—To 5½ ft. in Depth —Compact—Fast and Flexible



CLEVELAND—MODEL 80

New—Distinctive—Different—The Only Machine of its Kind—Performs 3 important operations — Backfills — Tamps — Lays Pipe.

WITH the two "CLEVELANDS" illustrated here you will save money on your trenching jobs from the breaking of ground to the last foot of earth tamped.

Time-tested, time-proven, compact, fast, flexible, streamlined for light weight—easy to move around the job, easy to move around the country, yet rugged and abundantly powered, these "CLEVELANDS" have the built-in qualities that enable you to get your pipe in the ground quickly, with least "times-out" and at lowest cost. Don't delay—get the details—Write today.

THE CLEVELAND TRENCHER COMPANY

"Pioneer of the Small Trencher"

20100 ST. CLAIR AVENUE **CLEVELAND, OHIO**

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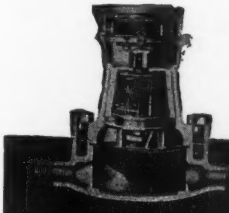
This saves the repair man's time . . . the two halves just snap together or snap apart, instantly. No delays or troubles with nuts or screws. Typical of Trident Meter simplicity throughout.



NEPTUNE METER COMPANY · 50 West 50th Street, NEW YORK CITY

Branch Offices in CHICAGO, SAN FRANCISCO, PORTLAND, ORE., DENVER, DALLAS, KANSAS CITY, LOUISVILLE, ATLANTA, BOSTON

Neptune Meters, Ltd., 345 Sorauren Avenue, Toronto, Canada

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"Sorry, I'm not going – I'll be shopping instead!"

"HIS SPEECH at the club luncheon is going to be about advertising, and I know just what he's going to say. I've read his book.

"He's *against* advertising . . . says it adds to the cost of living . . . that it misleads and deceives the public.

"Tommyrot! Dad's first car cost more than two thousand dollars. Ours cost less than half that much and it's a better car.

"Our first package of corn flakes was fifteen cents. Now we get *two bigger* packages for fifteen cents and they reach us fresher and crisper.

"Mother wore silk stockings only on Sundays because they cost so much. I wear them every day!

"I think the lecturer is all wet. Tell him I wouldn't enjoy his speech. The only ad I ever read that sold me a poor bill of goods was the one about his book."

★ ★ ★ ★ ★

Venomous books and speeches, in which radical agitators attack advertisers, have been much in fashion these last few years. But the novelty is wearing off and interest wanes as one after another of the attackers figures prominently in the findings of the Dies Committee.

Advertising is not a sinister something to suspect. It is just a part of selling, a proved method of increasing business activity—a condition we've all been praying for since 1930.

It has introduced new luxuries and improved necessities in towns and villages at the same moment as in the great metropolitan centers.

It has played a leading part in lifting home drudgery from the backs of women, putting the nation on wheels, improving our diet, hygiene and appearance. By stimulating mass production it has brought down the cost of the things we buy. It has helped keep our factories busy, our people at work.

Let's cheer advertising on. Help it to give business a lift. ***What helps advertising helps you.***

This message is published by

NATION'S BUSINESS

It is the 43rd of a series contributed to a better understanding of free enterprise. If you believe that advertising is a good thing and should be encouraged, why not say so plainly when you hear it slandered?

Profit by the experience of professional record keepers — the men who guard the priceless public records of our cities, counties, states and the nation — preserve all your valuable and important records on Byron Weston Co. Linen Record. Available through your printer, stationer or any Weston paper distributor.

FOR PAPER BUYERS: *The latest news and information about paper, briefly digested in* Weston's Papers, *a publication for paper buyers. Get your copy regularly. Write,*

BYRON WESTON COMPANY, DALTON, MASS., Dept. C.

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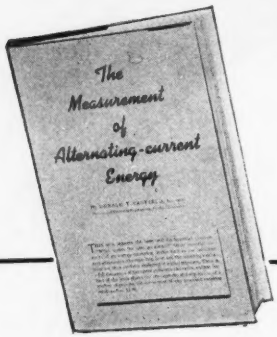

A new book for metermen

TELLING HOW TO measure alternating-current energy with the induction watt-hour meter

Make the information on metering in this practical new book bring you real profit . . .

You know your job. But the more you know about it, the more you know about the tools you work with, the more you know about attacking and solving properly special problems in your line—the more valuable you are as a man and as an employee.

THESE TEN PRACTICAL CHAPTERS WILL HELP YOU

- **Early History of the Watt-hour Meter Art.**
- **Elemental Theory of Torque Production.**
- **Essential Elements of the Watt-hour Meter.**
- **Application of the Essential Elements in Modern Meters.**
- **Watt-hour Constants; Gear and Register Ratios.**
- **Vector Analysis of the Induction Watt-hour Meter.**
- **Compensation of Errors.**
- **Polyphase Metering.**
- **Analytical Checking of Metering Schemes.**
- **Metering Special Circuits.**

This informative book answers for metermen the following questions:

1. **What makes the disk in a meter go around?**
2. **How can this revolving disk be made to measure energy?**
3. **What metering scheme should one use to measure the energy in a particular circuit?**
4. **How may one be sure that all the energy in such a circuit is metered by the particular scheme chosen?**

The presentation is based throughout on the author's long experience in teaching metering principles to groups and special classes of metermen.

THE MEASUREMENT OF ALTERNATING-CURRENT ENERGY

BY DONALD T. CANFIELD

Associate Professor of Electrical Engineering, Purdue University

210 pages 5½ x 8, 74 illustrations $2.00

THE book begins with an outline of the development of the principles of metering. It then provides an answer to the question: What are the ways and means, together with their modifications, of producing a torque on a rotatable member by electromagnetic means? After showing the possibilities of producing rotation in a disk by electromagnetic means, it explains why such motion must have a purpose. Then follows a discussion of the remaining essentials of an energy meter and the application of these essentials in modern meters. Meter constants and methods of compensation are covered in considerable detail. Also a method is developed and applied for checking the correctness of a proposed metering scheme to ascertain whether or not the proposed meter will or will not record all the energy passing through the metering point.

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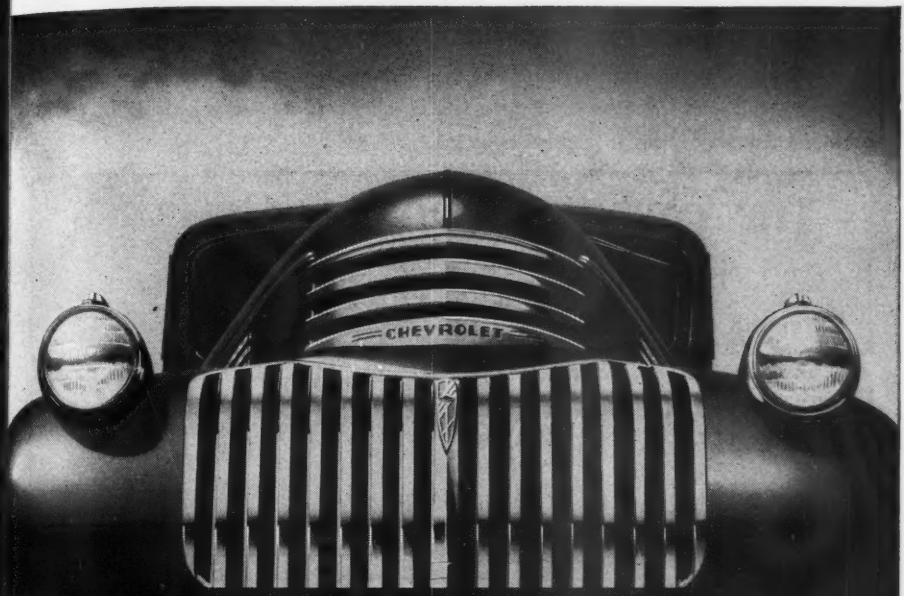

NEW 1941 CHEVROLET TRUCKS

The massive new front-end design of the 1941 Chevrolet truck is suggestive of the new power, strength and durability of the famous "thrift-carriers for the nation." The new 90-horsepower valve-in-head truck engine provides greater pulling power with Chevrolet's traditional economy.

The new longer wheelbases on all chassis permit new, spacious cabs that provide greater driver comfort and safety.

These and a host of other new and important features make the new 1941 Chevrolet truck the greatest value ever produced by the manufacturer who leads all others in truck sales.

Whether you need a truck for speedy delivery service, or for light, medium or heavy duty hauling, you'll find among Chevrolet's 60 models on nine wheelbase lengths a truck perfectly suited to your requirements.

CHEVROLET MOTOR DIVISION, *General Motors Sales Corporation,* DETROIT, MICHIGAN

POWER PLUS FOR PEAK PERFORMANCE

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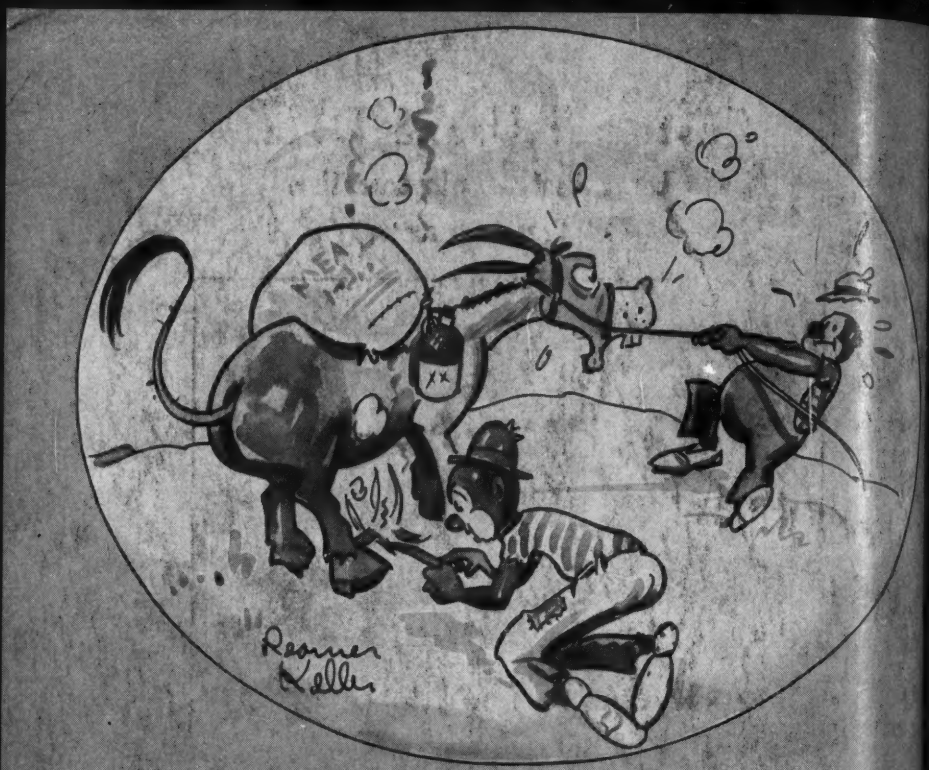

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